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## THE PHARMACOPŒIA of the UNITED STATES and the AMERICAN MEDICAL ASSOCIATION.

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*(Read at a special meeting of the Philadelphia College of Pharmacy, held April 9, 1877.)*

The approach of the usual time for the decennial revision of the "United States Pharmacopœia," calls for an early consideration from all practically interested in this important work, of any suggestions which may be presented, having in view improvements in its matter or its method.

A project contemplating very radical changes in the conduct of this revision has recently been promulgated and advocated with great ability and earnestness by Dr. E. R. Squibb, of Brooklyn, and has already been presented with characteristic energy to the American Medical Association in June last, to the American Pharmaceutical Association in September last, to the King's County Medical Society of New York in October last, and to the New York College of Pharmacy in December last. Collected and published in a pamphlet form, the position and arguments advanced by Dr. Squibb have been widely disseminated through the medical and pharmaceutical professions, and will doubtless receive the attention due to the importance of the subject discussed.

The project referred to comprises two entirely distinct and independent topics, although they have constantly been treated by their author as the mere details of a single system. The first topic is a proposal to abolish the function and jurisdiction of the well-known and long-established "National Convention for revising the U. S. Pharmacopœia," by a formal resolution of the American Medical Association that it "does now and hereby assume the ownership of the 'Pharmacopœia of the United States of America,' and as the superior repre-

representative body of the organized medical profession does now and hereby relieve the 'National Convention for Revising the Pharmacopœia' from any farther acts of ownership, control or management of the Pharmacopœia." (p. 31 of pamphlet.) The second topic broached is the advocacy of certain changes in the plan of the work and in the frequency of its publication; (pp. 43, 44.) changes which, if shown to be really desirable improvements, have evidently no relation whatever to their parentage, and may as readily and effectually be accomplished by the present organization as by its hypothetical successor.

The first project certainly presents a somewhat startling character, and it is difficult to seize fully the argument by which it is attempted to be justified. The general proposition appears to be that the National Convention, though sufficiently well adapted for the purpose of its creation some sixty years ago, by reason of the special ability of the few men who continuously executed the prescribed task of revision, yet as these few eminent men have passed from their field of action, the National Convention has practically outlived its usefulness, and may now as well be decently buried. If it be true that the vitality of an organization is thus to be assimilated to the longevity of an individual, what better guarantee has the American Medical Association to offer that its usefulness could outlive the allotted term of three-score years. For "if by reason of strength they be *four-score* years, yet is their strength labor and sorrow; for it is soon cut off, and we fly away."

"It will be noticed," says the author, "that this decennial Convention for this express purpose long antedates this Association, and it is probable that if this Association had been in existence in 1820, or any similar National Association, it would have had charge of the Pharmacopœia." (p. 4.) Possibly so. What then? If this Association had preceded the decennial Convention, "it is probable" it would have rendered it superfluous; therefore, not having preceded, it should now supersede the Convention! "As it stands now, this Association is very nearly a duplicate of the Pharmacopœia Convention; so nearly so that one or the other seems unnecessary." If this striking similarity really exists, it does not appear doubtful which of the two should, and which of the two must, "its quietus make," and gracefully or otherwise retire from the field. If "this Association is so nearly a duplicate of the Pharmacopœia Convention," which was long before organized "for this

express purpose," so much the worse for the "duplicate;" for upon it lies exclusively the onerous task of establishing its *raison d'être*. Never has it been heard of that the occupant by primogeniture need be called on to produce his title-deeds, or to abdicate at the invitation of the younger "duplicate;" and it is not probable that the considerate mass of either the medical or the pharmaceutical professions will "willingly let die" the older occupant of the field, placed there "for this express purpose" of revision, and successful (Dr. Squibb himself being the judge) in having "worked well for more than fifty years;" (p. 4.) having exercised "the powerful influence of work well done." (p. 32.)

Perhaps a plea might be put it for the continued existence of the American Medical Association, that in conception and creation, in objects and in career, it was by no means so "nearly a duplicate" of the National Convention as had been represented; that its membership was determined by a certain respectability of standing among therapeutists, without any reference to fitness, real or supposed, for critically determining the best forms of the *Materia Medica* and its pharmaceutical preparations. And our author has told us that even a selected council of physicians, "fitted without special training to take up such a work and do it moderately well at once, certainly could not be found!" (p. 14.) On the other hand, the decennial National Convention, selected from representatives of the medical and pharmaceutical professions throughout the country, supposed to be best qualified for this especial work, convened "for this express purpose," and distracted by no other objects or discussions, would seem at first sight to occupy a domain very far removed from any chance of rivalry, or any suspicion of encroachment on even the youngest of annual fellowships and professional associations.

It will be observed that the resolution above cited "assumes" ownership of the Pharmacopœia for the American Medical Association by a *coup d'état*, "as the superior representative body of the organized medical profession." This is certainly a curious ground on which to base such an "assumption," admitting the modest claim to be well founded. But "superior representative body" in what respect? "For this express purpose?" Never can such a proposition be for a moment admitted!

"That the plan of revising the Pharmacopœia by this Convention has been eminently successful and sufficient up to 1850 or 1860 will not

be doubted by any reasonable person, for the testimony of the great mass of the profession will be heartily, promptly and thankfully accorded to this proposition." (p. 33.) But the objection is raised that the existing Convention "has not been so successful in the later revisions, and notably defective in the last one, when the committee of final revision and publication refused to carry out the instructions of the Convention, and substituted its own judgment in opposition to that of the authority by which the committee was created." (p. 5.) It is presumed that this somewhat severe condemnation (which, after all, certainly cannot fall upon the *Convention*) refers to the failure of the executive committee to substitute measures of *weight* in all formulas of liquid preparations, for measures of *capacity*, as directed by the sixth resolution of general instructions. Now it must be said in extenuation of this dereliction, that the proposed change was admittedly a very radical one; that probably very few of the members of the Convention who voted for the change fully realized the amount of labor and responsibility involved in the reconstruction of formulas on the basis of weight alone, in deciding on just ratios, in many cases by new and original determinations of specific gravity, and in probably modifying more or less every tincture, solution and mixture of the Pharmacopœia, and that this additional labor would probably have entailed another year of delay in the completion of the work. This fault of omission on the part of the committee, at the worst but a conservative retardation of the car of progress, leaving the Pharmacopœia no less useful than in its previous revisions, certainly forms no very cogent reason for impugning or invading the legitimate jurisdiction of the Convention.

But it is further objected (and this in an argument before the last meeting of the American Pharmaceutical Association) that the last revision of the Pharmacopœia "does not represent the progress in pharmacy up to the time;" "that its descriptions and details are insufficient;" "that its processes are many of them unnecessary"—some "defective, while a few are positively bad;" and "that there are more errors in it" than there should be. (pp. 10, 11.) Vague as are these allegations, they may be met with a simple and direct traverse. It may be confidently affirmed that in relative excellence, in fullness, and in general accuracy, the last edition of the Pharmacopœia compares favorably with its predecessors, upon which Dr. Squibb has expended his contrasted praise that "the work was so admirably done."



And the decision of the issue may be left to the intelligent pharmacist. Perhaps very few of the criticisms since offered to the last revision were not freely and fully canvassed in the committee.

In the address before the New York College of Pharmacy we find the somewhat milder statement, "The true reason why our last revision was so unsuccessful, and probably the only reason why we are now left to desire a change, if we do desire one, is because it is so constructed as to require a Dispensatory, and is now without one." (p. 19.) This appears to be a totally new objection. Certainly a "Dispensatory" is no part of a "Pharmacopœia," and as certainly it was no part of the duty of the Convention, or of its executive Committee, to prepare a "Dispensatory." The cause of the unfortunate delay in issuing the expected revision of the latter work, it is well known, is the infirm condition of its venerable surviving editor and proprietor.

Our critic proceeds: "The reason why we have not a better Pharmacopœia now, is that the labor involved was so great that no man or set of men should have been asked to perform it unpaid. The Committee did not only all that could be reasonably expected of them, but far more than they could afford to do. . . . Let us not permit ourselves to complain that the work was not better done, but let us be thankful that it was done so well." (p. 19.)

An objection more directly addressed to the decennial Convention is the somewhat curious one that this body is not properly a "national" one. "Whatever may have been the reasons, this organization *never was a national one*, in any true sense of the word, in its relation to the aggregate medical profession of the United States, and its Conventions were not only infrequent, but small, and simply gave support and authority to a very few men." (p. 6.) Now, what are the simple facts as to the constituency of this organization? The fundamental rule of its existence is—

"The President of this Convention shall, on the first day of May, 1879, issue a notice requesting the several incorporated State *Medical Societies*, the incorporated *Medical Colleges*, the incorporated *Colleges of Physicians and Surgeons*, and the incorporated *Colleges of Pharmacy*, throughout the United States, to elect a number of delegates not exceeding three, to attend a General Convention to be held in Washington on the first Wednesday in May, 1880."

Here are four most important classes of Associations "throughout

the United States" specifically invited to send delegates to this general Convention, and yet it is not *national*! What, then, is to make it "national"? A penal enactment in Congress that every specified association in every State *shall* send delegates? Let us hear Dr. Squibb's own statement. "The fact that in this organization the *medical* profession of eight to twelve States only was represented, was not the fault of the organization, for each decennial Convention not only invited delegates from all the States, but urged upon State Societies, Colleges, etc., the importance of being represented in and aiding in a work of such importance." (p. 6.) So, according to our author, something more than the right to send delegates, or the formal request, or the urgent solicitation to send delegates, is requisite to confer a general or national character upon the Convention. By this postulate, the attempted secession of the Southern States, some sixteen years ago, left us without a "National" Congress! even though it might be charitably conceded that the default of the absenting representatives "was not the fault" of the faithful Congress. If the Medical section of the constituency of the Convention neglected in many of the States to present an appearance in response to the urgent invitation of the Convention, this apparent apathy "was not the fault of the organization;" and if it *may* have been, as suggested by Dr. Squibb, "perhaps more than all, because the aggregate profession had full confidence in the few men who managed the interest so well, and trusted them fully, basing this trust justly upon the beneficent results of their labors;" (p. 6.) possibly it was quite as much because the aggregate profession felt but little special interest in the object of the Convention, and but little disposition to engage in a laborious and somewhat thankless undertaking.

As a contrasted picture to this local and sectional Convention, let us contemplate what is characterized as "a truly national organization" in the American Medical Association. "From 1848 to the present time this Association has consisted of representatives from so *nearly* all the States that it must be fairly considered a national organization." (p. 6.) Could not some of this "*truly* national" flavor be generously imparted to the now limited and provincial Convention? "It would be quite competent for this Association, at its meeting for 1879, to *direct* one of its constituent members from each State Medical Society to attend this 'Convention for Revising the Pharmacopœia' in 1880, and thus give to the organization that nationality of character which it

now needs." (p. 7.) There we have the true secret of a "national character!" Instead of invitation and earnest appeal for three delegates from every incorporated institution of medicine and pharmacy "throughout the United States," let the Convention in the future "direct" one member from each State to attend, and it will then have attained (what it now needs) "a truly national character!" It is true that the Medical Association represents but *one* of the four classes represented in the Convention, but "this is of no consequence!" Surely, never was there a stranger fabrication of a premiss to serve a theory than in this "distinction."

Now let us learn its purpose. "If it does represent the aggregate medical profession, it is fairly entitled to the management and control of all the general interests of that profession. . . . Among the most important of these . . . is that of the Pharmacopœia; and this interest has, up to this time, been left entirely under the control of the older and smaller national organization." (p. 6.) Surely, never was there a stranger *non-sequitur* fabricated from such a premiss.

It has not been pretended that the American Medical Association was called into existence with any reference whatever to "this express-purpose," or that its members have been delegated, in any sense, as special experts in chemistry or in pharmacy, or in technical knowledge of the *materia medica*. Indeed, it may be said that the contrary is tacitly admitted throughout the argument. "Now, the American Medical Association, as a large, unwieldy, migratory body, must manage such an interest as this by some fixed and permanent body organized for the purpose within the Association." (p. 24.) Hence, "the plan which is to be submitted to the American Medical Association, at its meeting in June next, is that it shall organize a Pharmacopœial Council, to be incorporated if necessary, consisting of five members, which council shall be charged with the *entire management* of the Pharmacopœia and all that pertains to it, and be responsible only to the American Medical Association. This council I would propose to form as follows: The nominating committee of the Association to nominate and the Association to elect the president of the council; then the association to *invite* (not "direct") the Surgeon-Generals of the Army and Navy each to appoint one member, and *invite* the American Pharmaceutical Association to appoint two members." (p. 25.) Now for the *modus operandi*. "As the meetings of this council would

have to be frequent during the general revisions, and perhaps two or three times a year for the supplementary fasciculi, and as the members would have to educate themselves to the special work, it would, perhaps, be better that the council should be small and compact, and live in adjacent cities." (p. 9.) As three of the council are to constitute a *quorum*, (p. 54.) who may "obtain a change in any of its members," we should probably have, as the final outcome of the so much vaunted "nationality" of the enterprise, a Pharmacopœia under the entire control of *three representatives of the United States*, (small and compact) "living in immediately adjacent cities!" And this is gravely proposed as an eminently "national" improvement on the existing *local* plan of an executive Committee of *fifteen*, representing *nine* leading cities, from Boston to Richmond, and from New York to San Francisco, together with a representative of the Army and of the Navy of the United States.

There is in the proposal, on behalf of the youthful Association, to quietly "assume the ownership" of the special and peculiar property of an old-established and entirely independent organization, an element of the ludicrous, which we think that Dr. Squibb himself could not fail to appreciate, were he to change his subjective for an objective stand-point. Perhaps the nearest typical analogue of the proposition is to be found in Mr. Dickens' veracious history of a somewhat similar *appropriation* by Mr. John Dawkins (otherwise known as "The Artful Dodger") of a silver snuff-box; he having first unanimously adopted the mental "resolution," that he "does now and hereby relieve the late proprietor from any farther acts of ownership, control, or management of the aforesaid silver snuff-box."

Let us suppose, then, that the American Pharmaceutical Association, at its forthcoming meeting, should adopt the following preamble and resolutions:

WHEREAS, The American Pharmaceutical Association, as being the only organized body which represents the profession of Pharmacy in the United States of America, may fairly claim the right to control all the general rights and interests of the profession; and

WHEREAS, "The Pharmacopœia of the United States of America," is among the most important of such general rights and interests; and

WHEREAS, A national Pharmacopœia is in no proper sense a Manual of Therapeutics, but is, and should ever continue to be, "an authorized dictionary of the standard *materia medica*;" and

WHEREAS, A national Pharmacopœia "is the result of accumulated experience and scientific research as directed to remedial agents, and especially aims to establish a standard for quality, strength and uniformity in the materia medica; and in accomplishing this it also becomes of necessity an authorized formulary for compounding the substances of the materia medica, or converting them into such preparations as come into general use under specific names," etc.; therefore be it

*Resolved,* That the American Pharmaceutical Association does now and hereby assume the ownership of the "Pharmacopœia of the United States of America." And as the superior representative body of the organized profession of Pharmacy, does now and hereby relieve the "National Convention for Revising the Pharmacopœia" from any farther acts of ownership, control or management of the Pharmacopœia.

If this resolution should strike the author of its original, as being somewhat presumptuous, to the present writer it really appears much less so than the one it parodies.

The fundamental fallacy of the repeated declaration "that the American Medical Association as the only concrete body or organization which fairly represents the *whole medical* profession of the United States, and therefore as really owning the United States Pharmacopœia as one of its most important general interests, should now take possession of the Pharmacopœia and control it henceforth," (p. 13.) lies in the equivocal use of the word "medical." The postulate is approximately true, only on the narrow and technical implication that the "medical profession" is equivalent to the art of *applied* medicine, in other words, to "therapeutics;" and in this sense the sequence becomes (be it said with all respect) ridiculously inadequate. On any broad and philosophical significance of the phrase as embracing the abstract science of medicine or "pharmacology," the declaration is self-evidently erroneous. For any purpose of giving plausibility to the *quod erat desideratum*, for any purpose of giving equitable color of jurisdiction to a *pharmacopœia*, it is very far from correct to affirm or to assume that the American *Medical* Association "fairly represents the *whole* medical profession!" So far the contrary, that most important part of it, specially devoted to the study and preparation of "medicines," is in that body entirely unrepresented. And yet our author has himself admitted "that pharmacy is *as much a part of medicine as surgery*," (p. 22)—very much more; for surgery is not in strictness an application of "medicine."

"The Pharmacopœia, then, is a general interest of medicine. . . . Now, if one of the general interests of medicine, who has a right to



its control? The *united* interests of medicine, and not the interests of any separate part." (p. 22.) The writer says very correctly, that "Pharmacy is but a specialty of medicine." (p. 22.) In stating and insisting on this fact, however, he seems not to have recognized "its other side," that medical practice has also, by the very same operation, become *specialized*. The physician is no longer a druggist as he once was; and this differentiation but illustrates the universal law of growth and development. When, therefore, Dr. Squibb reiterates "the *united* interests of the united parts is found in this country in the American Medical Association, and nowhere else," (p. 22.) he mistakes utterly. The interests of medicine are found in this country just as much in the American Pharmaceutical Association. The "*united* interests" are obviously found in neither representative body separately. When he adds, "By right, every pharmacist should be a member of the medical profession by education, and should then be a member of the American Medical Association, for there is where he belongs, to practice one of its specialties," (p. 22.) he evidently fails to realize that general law of organic evolution, that specializations, when once established, may either survive and grow, or may decline by atrophy; but that they never *merge*. He argues as though the therapist, after successive "specializations," still retained the original "comprehensive type." When he says that "wherever the organization is found which embraces the *general* interests of medicine, it is there that the Pharmacopœia should go, for it is there that it belongs," (p. 22.) he has established very clearly that at least it cannot properly go to the American Medical Association, even if that body possessed the moral and legal authority to "appropriate" it.

Referring to the profession of pharmacy, he says, "It happens that, from being the first and oldest specialty which grew out of medicine, it has erected itself into a special art or profession, and shows a tendency to claim independence of the medical profession, and a co-equality. To appreciate how unreasonable such a claim would be, if ever seriously made by pharmacy, it is only necessary to remember that medicine, in order to do without pharmacy as a profession, has only to compound and dispense its own remedies to its own patients." (p. 49.) Here again we have the latent impression that the physician still retains his ancient "comprehensive type;" that he has only temporarily (as it were) laid aside the gathering of simples, and may at any

time resume it. The writer still fails to realize that the "medicine" is necessarily as old as the "medicine-man;" and when, in the progress of civilization (which is evolution), the two became detached—lo, there were *two* medicine-men: the one resigning his visitations of the sick, that he might give a more efficient and undivided attention to the preparation and dispensation of remedies; and the other resigning his labors over drugs that he might give the fuller and more observant attention to the sick. And here, as everywhere, "specialization of function" has resulted in a wonderful advancement and perfection of the function on either side. Now it is just as nonsensical to talk of the pharmacist resuming his ancient care of the sick as to talk of the really skillful and intelligent physician returning "to compound and dispense his own remedies to his own patients!" But it is not a whit *more* nonsensical so to talk.

"How shall the art of pharmacy ever become either co-equal with, or independent of, the art of medicine? If not co-equal with, it must be either superior or subordinate to the medical art; and subordinate it certainly is, and this with a dangerous tendency to the *mercantile bias*." (p. 49.) Such is our author's way of not "trying to draw a dividing line" between "medicine and pharmacy," which he has just before declared to be "irrational"! (p. 48). Such is the "*imaginary antagonism which has been too much cultivated*!" (p. 7.) What ground has Dr. Squibb for imagining that, by the existing method of selecting expert pharmacists as delegates to the Convention, there is the *probability* of infusing a "mercantile bias"? What suspicion has ever been breathed that the labors of the pharmacist in the past, whether in Convention or in Committee, have ever tinged or tainted the Pharmacopœia with a "mercantile bias"? What purpose of division and antagonism is to be served by the suggestion of "a *dangerous tendency to the mercantile bias*" in the future? The imputation is as wholly unjust and unwarranted, as it is ungenerous and insulting.

The existing decennial Convention is neither a Medical nor a Pharmaceutical Society. It is a very special body of men, selected deliberately from chartered Colleges of either profession, convened on a platform of individual equality, for the exclusive work of revising the Pharmacopœia. For fifty years has this Convention performed its allotted duty, and performed it well. How well is evinced by the

reluctant admissions of the talented Adversary of the Convention. During this time no occasion or suspicion of any rivalry between the two leading professions represented has occurred to mar its equanimity or to distract its efforts. Nor has the pharmacist, although most directly interested in the result of its action, and most completely involved in the details of its execution, ever felt aggrieved that he has been outnumbered in the Convention by double the medical representation ; or ever desired a change in the constitution or the method of the organization.

It is now proposed to abolish this Convention, and to transfer its great work entirely to the keeping of a Medical Association. The projector has not, however, been guilty of the stupendous absurdity of devising a production of the Pharmacopœia with Pharmacy entirely "left out;" for, he says, "it would be almost as impracticable to manage the interests involved in the Pharmacopœia without the co-operation of pharmacy, as for pharmacy to manage them without medicine ; simply because pharmacy has accumulated an amount of knowledge and experience, which medicine has long ceased to work for and accumulate, and which medicine cannot afford to do without or to disregard." (p. 8.) A very sufficient statement that "medicine" (in Dr. Squibb's use of the word) does not comprehend "pharmacy," and, therefore, does *not* comprise "the united interests of the united parts, found in this country in the American Medical Association," as he has so fondly persuaded himself, and has so ingeniously labored to make us believe.

How, then, is this grand embodiment of "the *united* interests of 'medicine,' and not the interests of any separate part ; the united interests of the *united* parts in this country," (p. 22.) to execute its magnificent programme ? "Pharmacy is represented in the National Pharmaceutical Association . . . and pharmacy is essential to the Pharmacopœia !" (p. 8.) Therefore, it is proposed that the American Medical Association "should, in a proper way, *invite* the co-operation of the American Pharmaceutical Association in this work, *under the fully recognized leadership* of the American Medical Association !" We are not sure that there is not a typographical error in this quotation, and that the word "invite" should not be "direct," especially as we find this latter word employed on the preceding page in a somewhat similar connection.

A very slight modification of the above process might (with all diffidence) be suggested, which would seem to give a congruity of purpose, a unity of plan, and a solidarity of result, eminently fitting and equitable. Remembering that "pharmacy is but a specialty of medicine," "but a subordinate *part* of the medical art;" and remembering further that "by right every pharmacist *should be* a member of the medical profession by education, and *should* then be a member of the American Medical Association," (p. 22.) and, whereas, there should be no invidious distinction made between the several parts of the "united interests of medicine" in this country, or between the decennial Pharmacopœia Convention on the one hand, and the annual Association of Pharmacists on the other, in our treatment of the same, therefore, let it be "resolved," that the American Medical Association, as the superior representative body of the organized medical profession, does now and hereby relieve the American Pharmaceutical Association from any further acts of control or management of affairs connected with the improvement of the art and science of pharmacy, and does now and hereby "assume" the entire ownership and control of all the properties, rights, duties and proceedings whatsoever of the said Association. For "it will hardly be doubted that this Association, as the only national representative of the profession," "is fairly entitled to the management and control of all the general interests of that profession, and the only proper source of authoritative action." As pharmacy is evidently one of the most important interests of the medical profession, "it would be quite competent for this Association," at its next meeting, to accomplish this desirable end and thus give to pharmacy a "truly national" character! The absorption of virtue, by this proceeding, would, doubtless, fully equal the "assumption" of responsibility thus "resolutely" effected. For there is much virtue in good "resolutions."

The writer appears to realize that this Association is not entirely adapted to the peculiar business in which he would have it engage; (p. 24.) and that even a select council, to whom it should wholly commit the subject, could not be expected to "do it moderately well without special training." (p. 14.) Nevertheless, having wrenched the spoil from a Convention of "specialized function," for the honor and aggrandizement of the "superior" Association, he would have the latter "control and manage the Pharmacopœia by means of a

council, to be styled the Pharmacopœial Council of the American Medical Association." This council of five to "be charged with the entire control and management of the Pharmacopœia in all its details." (p. 13.) The American Pharmaceutical Association being "invited" to select and appoint two pharmacists to serve on the council, the ingenious author of the scheme acknowledges that "it seems a little doubtful, however, whether the Association will accept such an invitation if tendered;" (p. 52.) and he expresses an artless "surprise" that several prominent members should have been so "unreasonable" as to object to so advantageous an arrangement. (p. 53.)

Is it seriously supposed that a *co-ordinate* national Association could, with self-respect, *accept* an "invitation" to assist, "under the fully recognized *leadership* of the American Medical Association," in eking out the lack of special skill and training of a body which had unwarrantably "assumed" a task for which that body was utterly unqualified? "The professions of medicine and pharmacy are inseparable in a pharmacopœia; and it seems irrational to try to draw a dividing line." (p. 48.) And who has been prominently engaged in this "irrational" attempt, if not the man who has undertaken to *wrest* a great work from an "inseparable" organization of the pharmacist and physician, to place it under the entire control and "fully recognized leadership" of the medical profession?

Our revolutionist very properly deprecates all attempts at encouraging a jealous feeling between the physician and the pharmacist. "Medicine and pharmacy," he says, "without their natural connection and dependence upon each other, would soon lose their utility to mankind. . . . And an imaginary antagonism between them, which has been too much cultivated of late on both parts, is exercising a degenerating effect on both." (p. 7.) And yet the whole fabric of reconstruction, so laboriously devised, is based on an unconscious sentiment of rivalry between the two professions.

It needs no argument to show that for an efficient revision of the Pharmacopœia there is required the co-operation of at least four classes of specially trained experts; first, one or more *medical* experts, to bring a large experience and knowledge to bear on the therapeutic value of proposed additions to, or withdrawals from, the *Materia Medica*; second and third, one or more *botanical* experts, and one or



more *chemical* experts, to bring an enlightened judgment to bear as to the characteristics and tests of standard excellence in the organic, and in the inorganic departments of the *Materia Medica*; and fourth, one or more *pharmaceutical* experts to consider well the preparations and processes to be adopted in the *Pharmacopœia*. No subsidiary employment of special technical experts ("under direction of the council" p. 53) can possibly supplement a lack of these powers and capacities in the executive Commission itself, however desirable such employment of additional skill may be in assisting such powers and capacities. No single man or *class* of men can possibly embody, in sufficient degree, this necessary range of culture and attainment.

And yet our enterprising innovator is so bent on having the coveted work *medically* done (well, if possible, but if ill, still medically done,) that anticipating a failure to secure the co-operation—we mean sub-operation—of "pharmacy," he has made full provision for "running the machine"—"in case the American Pharmaceutical Association should decline this invitation;" (p. 41.) as it is "necessary to provide in the organization of the council, against *any* miscarriage of the work." (p. 53.)

Were, then, the previous declarations that "a pharmacopœia without pharmacy would be a theory without practice;" (p. 7.) "that it would be *almost* as impracticable to manage the interests involved in the *Pharmacopœia* without the co-operation of pharmacy, as for pharmacy to manage them without medicine;" (p. 8.) and "that the pharmacists and physicians should *unite* in making the *Pharmacopœia*;" (p. 22.) were these declarations intended to be taken in a "Pickwickian" sense? And is the plan matured that in case the American Pharmaceutical Association should be innocent enough to accept an invitation "under the fully recognized leadership" of the superior representative body, the pharmacists shall ultimately be "invited" *out* by the competent and plenary authority which invited them in, when the proper time shall have arrived, and the new departure may be considered to have been fully established?

"Medicine and pharmacy, without their natural connection and dependence upon *each other*, would soon lose their utility to mankind!" (p. 7.) "Pharmacy is one of the specialties of medicine, and bears a *closer* relation to general medicine than any other specialty;" (p. 49.)

not even excepting the specialty of practical therapeutics, or the healing art itself.

"How, now, can medicine do without pharmacy? The answer here seems equally plain, that it could not do without it at all, and that it would be very unwise to attempt it, unless pharmacy, acting as a separate profession, should force the irrational and unnatural discord." (p. 49.) But Pharmacy unquestionably *is* "a separate profession," in the same sense, and to the full extent that Therapeutics or "Medicine" is a separate profession. The answer *here* "seems equally plain:" pharmacy could not well do without "medicine," and it would be very unwise to attempt it, *unless* medicine, "acting as a separate profession, should force the irrational and unnatural discord!"

Our author has deliberately published his "proposed plan for the future management of the U. S. Pharmacopœia, to be submitted to the American Medical Association at its Annual Meeting in Chicago in June, 1877." (p. 30.) If the military aptness displayed by the contemplated procedure of confiscation is striking, still more remarkable if possible is the stratagetic combination suggested to get rid of the superfluous incumbent, the surviving organization thus sought to be despoiled. "That can be easily done, for the American Medical Association can say next year, if it chooses, to those bodies which are at present represented in the Association, and were represented in the last decennial Convention, that the Association has decided to take possession of the Pharmacopœia, and asks such bodies *if* it be in their judgment a proper move to make, to send delegates with authority to transfer allegiance from the National Convention to that Association. Then, if complied with, the matter is plain, for the American Medical Association can pass a *resolution*, asking that the President of the National Convention shall not call the Convention in 1880!" (p. 23.)

The general method, if ingenious, is not entirely unprecedented; for (if Dr. Squibb will pardon the metaphor) this is not the first time that an assassination has been contrived to wear the guise of a suicide. Two subjects of surprise, however, are occasioned by this passage; the first is the "assumption" of authority over the constituent bodies represented in the Association; (though we do miss the word "direct,") and the second is the further "assumption" that these constituent bodies can control the Convention. In Dr. H. C. Wood's excellent pamphlet, in reply to Dr. Squibb, it is stated that "out of the thirty-

one organized bodies represented in the National Pharmacopœial Convention of 1870, but six or seven are entitled to send delegates to the American Medical Association, and *no college* is permitted representation in the Association." (p. 8.) That is to say, under a Napoleonic generalship, three State Medical Societies and three local Medical Societies (supposing them to be obedient to the behests of the American Medical Association,) are "assumed" to overwhelm and rout twenty-two other incorporated bodies represented in the National Convention, and not represented in the Medical Association!<sup>1</sup>

As certainly as any human events can be foreseen, the National Convention for revising the United States Pharmacopœia will hold its usual decennial meeting "in Washington, on the first Wednesday in May, 1880." And as certainly it will proceed as usual to the deliberate discharge of its appropriate duties; adopting its well-considered policy, and giving to the medicinal professions of the country in due time its expected edition of the United States Pharmacopœia.

Re-iterating the cherished fallacy that the American Medical Association, "as the *superior* body, and even embracing the *very elements* of the National Convention [!] may relieve it and assume its functions and work," the writer, under review, proceeds to the logical result, that this Association "may even carry these out in its own way, yet the officers of the Convention may decline to be relieved, and may call a Convention in 1880, as provided for by the Convention of 1870. There might then be two Pharmacopœias." (p. 35.)

Should the ill-advised counsels of Dr. Squibb find any sufficient following to re-enact the farce of 1830, when New York ventured the experiment of a rival Pharmacopœia, the event will be deplored by the judicious, but it will not effect the credit or the success of the only duly authorized occupant of the field.

As if in anticipation of such a programme, the author ventures to announce the following opinion: "If the American Medical Association took the title from the Convention, and produced its book first, then the pharmacists would be obliged to call their book by some other

<sup>1</sup> This does not include, on either side, the representation of the following three bodies: the Medical Departments of the "U. S. Army," and of the "U. S. Navy," and the "Medico Chirurgical Society of Louisville," which three bodies, although represented in the last National Convention, were not represented in the American Medical Association at that time.

name!" (p. 27.) In this very remarkable announcement, the aspiring opponent of the Convention has evidently not taken the precaution to secure the advice of Legal Counsel.

While we believe that the existing method of constituting the Convention could not well be improved, we are inclined to the opinion that an authority given by the National Government to a standard of so much importance as the U. S. Pharmacopœia, would be very desirable. Fully recognizing both the difficulty and the impolicy of any penal enforcement of such a standard in a country where, as Dr. Squibb has stated it, "every man has a right to have his disease treated as he pleases," we do not think it necessarily follows that, "hence we cannot hope to have a governmental pharmacopœia in any true sense of the term." (p. 23.) Were the call of the Convention to emanate, by law, from a Secretary of one of the Departments—the Interior, the War, or the Navy,—with such extension of the constituency as might be thought proper, there can be no doubt that such official invitations to co-operation would be much more generally responded to, and that the resulting work of the Convention would have the prestige of a governmental sanction and authority; at least to the extent of preventing the professional scandal of a rival Pharmacopœia, such as we are just now so causelessly threatened with.

The discussion of the primary portion of my subject has extended so far beyond my expectations and desire, that I am compelled reluctantly to defer the second branch, namely: proposed changes in the Pharmacopœia and its Plan, to another occasion.

## WEIGHTS AND MEASURES.

BY EDWARD GAILLARD, PH.G.

(*Read at the Pharmaceutical Meeting April 17th, 1877.*)

It is stated in the "Home Cyclopedia of the World's Progress," that weights and measures were invented by Phidion of Argos, 869 B. C.

They became general in most countries soon afterwards. Standards of weights and measures were provided for the whole kingdom by the Sheriffs of London, 8 Richard I, A. D. 1197. Standards were again fixed in England in 1257. They were equalized for the United Kingdom in 1825, and no doubt extended over her colonies by early settlers.

The metric system that is engrossing the mind of the pharmaceutical world here, was first adopted in France, and is now slowly superseding the systems in use in other countries. It was authorized to be used in the United States, and its use introduced into some departments of public service, in 1866, by act of Congress. The two most important points of this system are: 1st, that it is a decimal system, and, 2d, that the units of length, superficies, solidity and weight are all correlated, two data only being used, the meter and the weight of a cube of water, the side of which is the hundredth part of a meter. The system was suggested as long ago as 1528, by Jean Fernal, a physician of Henry II of France; took a practical turn in 1790, and in 1803 a work on Pharmacy was published in the French language by Lagrange, giving formulas with the two systems, for example:

*Wine of Opium.*

R.	Aqueous extract opium,	32	grams	(1 ounce
	Saffron,	16	"	( $\frac{1}{2}$ "
	Cinnamon,	8	"	(3ii
	Cloves,	4	"	(3i
	White wine,	$\frac{1}{2}$	kilogram	(1 pound
	Mix.			

A committee of the Academy of Sciences had been appointed, and the result of their labors was a close approximation to the true length, and in the highest degree creditable to the scientific men engaged in it. By means of the arc of the meridian measured by Bouquier and La Condamine, in Peru, 1736, the length of the quarter of the meridian, or the distance from the pole to the equator, was calculated. This length was partitioned into ten millions of equal parts, and one of these parts was taken for the unit of length, and called a meter, from the Greek word signifying measure.

Two important principles form the basis of the metric system: 1st, that the unit of linear measure applied to matter in its three forms of extension, viz., length, breadth and thickness, should be the standard of all measures of length, surface and solidity; 2d, that the cubic contents of the linear measure in distilled water, at a temperature of great contraction, should furnish at once the standard weight and measure of capacity. Thus, 1st, the unit of length was the meter, as we have seen—the 10,000,000th part of a quadrant of the earth's surface. From this we derive, 2d, the unit superficies, the arc—a square decimeter; 3d, the unit of capacity, the liter—a cubic decimeter; 4th,



the unit of weight, the gram—the weight of a cubic centimeter of water.

These four units are subdivided into tenth, hundredth and thousandth parts, which are denominated by the syllables derived from the Latin, deci, centi and milli; the multiples are similarly by tens, hundreds, thousands and ten thousands, distinguished by the prefixes borrowed from the Greek, of deca, hecta, kilo and myria.

The whole of the multiples and subdivisions of the metric system are decimal, and the reduction from one denomination to the other is performed by multiplying by ten or its multiples, or dividing by them. There is no necessity to alter the figures, but merely to read them differently, by placing the decimal point so many places, according to the terms of the required denomination.

No system of metrology hitherto invented can be compared with this of the French in a scientific point of view, while its convenience for the purposes of commerce or pharmacy is now so generally admitted by those who have made themselves intimately acquainted with its workings, that the universal adoption to pharmacy cannot be much longer delayed.

## INDEXING OF PERIODICALS.

BY HANS M. WILDER.

Mr. Moore's article on the *external* treatment of books suggests to me that a few words concerning their *internal* treatment might not be amiss.

When, in the course of our readings, we come across a statement which may be of use to us, or, for one reason or other, interests us, we "make a note of it" (so to speak) in our mind. This will do for awhile, particularly respecting books, etc., in our possession, which we can consult at any time. We soon find out, however, that our memory is quite unreliable, particularly in regard to figures; for this reason, and because we read many books and periodicals which we seldom or never have occasion to consult again, we keep a memorandum book in which we jot down the chief points, figures, etc., not forgetting reference to book, volume and page. Provided we keep pace with the progress of our profession, it will not take a long time before said memorandum book swells to, it may be, a hundred pages or more, and we find it necessary to make an alphabetical register to facilitate the find-

ing, all of which work has to be repeated at no distant time again. Now all this is irksome, and for those who read (and note down) I offer the following suggestion :

This is nothing else than the "card" system of the large libraries.

Cut somewhat stiffish paper (which can bear a good deal of handling without getting creases) into convenient size (say 3 inches by 5). Now write each statement or fact you wish to recollect on a separate "card," heading it with a catch-word in larger, heavier letters. Note down only the indispensable points, figures and absolutely necessary details, trusting your memory with the rest ; do not forget to add due reference ; you might, perhaps, wish at some future time to consult the printed article. Arrange all your cards in strictly alphabetical order, and add any additional card at once in its place. You have now an always indexed suit of memoranda which can be consulted in a moment. Keep the cards in a card press ; by screwing tight down no card will get lost.

This arrangement is also the preliminary step to making an index to books and periodicals, and also for cataloguing a library, the amount of "noting" necessary varying, of course, with the object in view.

Speaking of periodicals : The "American Journal of Pharmacy" can boast of having the most complete and best-arranged general index of any periodical (whether scientific or semi-scientific) in the world ; the one that comes nearest to it in completeness, but ill-arranged, is the one to the "Journal de Chimie et de Pharmacie."

Those desirous of knowing what a card catalogue looks like, may see one at the old Philadelphia Library (South Fifth), which is for the use of any visitor ; all larger libraries have one, of course.

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## ELIXIR GLYCYRRHIZÆ.

By GEO. W. KENNEDY, PH.G.

An elixir by the above name has been introduced in our section within the last few weeks, intended as an adjuvant to disguise and cover the extremely bitter taste of the cinchona alkaloids, epsom salt and other nauseating and bitter medicines. I can say, after a large number of experiments, that this elixir will admirably answer the purpose for which it is recommended and intended. Experiments made with the view to ascertain and determine the quantity of quinia an ounce of

the elixir will completely disguise, prove that the bitterness of from 10 to 12 grains is masked, while with from 15 to 20 grains there is but a slight bitterness observed, comparatively speaking. Hitherto the great objection to quinia as a medicine, especially when given in a liquid form, has been its very bitter taste. There are few sick or convalescent patients who can take it in solution; besides it is frequently prescribed for young children, and to prepare it for those in as palatable a condition as possible is the great object of elixir glycyrrhizæ, which I hope will fill a vacant place in the line of the many elegant pharmaceutical preparations, and one which I am satisfied, from my own observations, will meet the hearty approval of the medical fraternity.

The elixir taraxaci comp. of Mr. P. C. Candidus, a formula for which preparation was presented to the American Pharmaceutical Association, 1869, is also intended to mask the bitterness of quinia, and will be found to contain, as one of the ingredients, liquorice root; there is no doubt but this root is the one which has the effect of concealing the bitter taste of many nauseating medicines. The main objection, I find, to Mr. Candidus' preparation is, that in a short time it becomes turbid and presents an unsightly appearance, whilst thus far the elixir of liquorice root has remained perfectly clear, and seems, therefore, preferable as an adjuvant.

Regarding the mode of action of liquorice root in disguising the taste of bitter medicines better than other sweet principles, I would refer the reader to an article by Mr. Joseph M. Hirsh, published in this journal in 1871, p. 77, and copied from the "*Proc. Am. Phar. Asso.*," 1870, wherein he says, "When glycyrrhizin or liquorice dissolves upon the tongue, the latter soon becomes furred, coated; this coat being a coagulum of the albumen of the saliva with the glycyrrhizin. A few tests convinced me that even a weak solution of albumen coagulates readily with glycyrrhizin, and I took the artificial coating of the nerves produced by the albuminous coagulum of glycyrrhizin to be the true cause of its masking bitterness." And in order to prove this assertion, other drugs which also coagulate albumen, for example carbolic acid, were experimented with, and found to have a similar effect.

My object here is to bring this subject again before the medical and pharmaceutical professions and recommend its use, and also to furnish a formula for a preparation which is much pleasanter than simple syrup and to the former decidedly palatable.

The following formula I find to furnish an excellent elixir.

R.	Radic. glycyrrhizæ opt.,	℥ii
	Spir. vini rect. fort.,	℥vi
	Aquæ,	℥vi
	Syr. simplic,	℥iv
	Spir. aurantii,	℥iiss
	Spir. cinnamomi,	℥viii

The spirits are made by dissolving 1 fluidounce of the oil in 15 fluidounces of stronger alcohol.

Make a moderately coarse powder of the root, mix the alcohol and water, moisten the powder with the mixture, allow it to stand twelve hours, pack in a conical percolator, and pour on the balance of alcoholic mixture and sufficient diluted alcohol until 12 fluidounces of percolate are obtained, then add the syrup and finally the spirits of orange and cinnamon.

Pottsville, Pa., April, 1877.

## AROMATIC ELIXIR OF LICORICE.

BY JOSEPH P. REMINGTON, PH.G.

*Read at the Pharmaceutical Meeting, April 17th.*

Since the remarkable property possessed by preparations of glycyrrhizin was noticed—of influencing the gustatory nerve so that bitter and disagreeable substances can be readily administered without betraying their presence—several forms of using this valuable addition to the *Materia Medica* have been suggested. An aromatic elixir of licorice has been one of the most desirable and successful of these attempts, and the writer submits a formula which seems to be satisfactory:

Take of Cinnamon,	grams, six
Star anise,	" four
Coriander,	" seven
Caraway,	" seven
Tonqua,	" four
Canella,	" two
Nutmegs,	" two
Cloves, all in fine powder,	" two
Ammoniacal glycyrrhizin,	" forty
Oil of orange (fresh),	" two
Alcohol,	" five hundred and thirty-two
Syrup,	" one thousand
Water,	" four hundred and seventy-five

Mix the oil of orange with the alcohol and water and percolate the aromatics, recovering one thousand grams of percolate by pouring sufficient water upon the top to accomplish the purpose. Dissolve the ammoniacal glycyrrhizin in a small quantity of boiling water, and add to the rest after mixing with the syrup.

If an agreeable, simple elixir is at hand, the ammoniacal glycyrrhizin may be simply dissolved in it, in the proportion of one gram in fifty grams of simple elixir.

If it is desired to administer sulphate of quinia, all that is necessary is to pour into a teaspoon or glass a small quantity of the elixir, add the sulphate of quinia, and swallow before the bitter salt dissolves to any extent; then follow with a fresh teaspoonful of elixir, and the deception is complete.

### BASHAM'S MIXTURE AND HALLER'S ELIXIR.

MR. EDITOR—Inquiry having been made for *mistura Basham*, I forward the formula for insertion in your journal. The favor it has obtained renders it desirable that it should be published<sup>1</sup> in some pharmaceutical journal:

R. Tinct. ferri chloridi,	3 parts,
Acidi acetici dil.,	4 parts,
Liq. ammonii acetatis,	32 parts,
Curacoa,	8 parts,
Syrupi cortic. aurantii,	12 parts,
Aquæ q. s., ft.,	64 parts.

Under the names of *Elixir Halleri* and *Tinctura Halleri* the following mixture has been much prescribed, which is officinal in the German Pharmacopœia, as *Mixtura sulfurica acida*:

R. Acid sulphuric,	1 part,
Alcohol (835),	3 parts.

These are parts by weight, and if made by volume the following quantity should be taken:

Acid sulphuric,	f34½
Alcohol,	f328½

Yours, &c.,

THOS. S. WIEGAND.

<sup>1</sup> See also formula in this journal, 1876, p. 137.



## OINTMENT OF OXIDE OF ZINC.

BY JAMES RUAN, PH.G.

The present formula in the "U. S. Pharmacopœia" for Ungt. Zinci Ox. does not seem to meet the favor of some pharmacutists on account of the tediousness of the process and the time consumed in its manipulation. Recently, in the "Druggists' Circular," a formula was recommended which, no doubt, may produce an excellent result, but too marked a departure from that of the "Pharmacopœia," in any preparation, is to be condemned. And I cannot see that the amount of labor involved in the preparation is reduced in comparison with that in the officinal. What is surprising is that there should be so much trouble in its preparation by some pharmacutists.

Some use a large mortar to grind the zinc into the lard, others exercise themselves with a paint mill, and lastly, another has gone into the kitchen and seized upon the flat-iron as the instrument par excellence to attain his purpose; and yet all seemed to have overlooked a very simple element found in every drug store, viz.: aqua.

The following process, I think, will be found to answer all purposes, producing a preparation free from all roughness and unequaled for smoothness:

Rub the 80 grains of oxide of zinc with about f3ss of water, on a tile, with a spatula, into a smooth paste, then incorporate the 400 grains of ointment of benzoin.

If a larger quantity is desired to keep on hand, the whole may be turned into an evaporating dish, placed on a water bath, applying a gentle heat to drive off excess of water, and stirring until cool, lastly adding the tincture of benzoin.

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## FORMULAS and PREPARATIONS of New MEDICAMENTS.

BY THE EDITOR.

We find in the French journals a number of formulas, which have been discussed before the pharmaceutical society of Paris, and from which we make the following selections:

**Thymic Acid.**—Add solution of potassa or soda to oil of thyme, agitate well for some time, separate from the uncombined hydrocarbon, decompose the alkaline solution by hydrochloric acid, wash the oily liquid with water, and purify by distillation. Thymic acid, or

*thymol*, thus prepared, is liquid, of a weak odor of thyme, little soluble in water, freely soluble in alcohol, possesses caustic properties, and has the composition  $C_{10}H_{14}O$ .

**Solution of thymic acid (1 per mille).**—Dissolve one gram of thymic acid in four grams of stronger alcohol, and add 995 grams of water. This solution is employed in lotions, injections, inhalations, etc.

**Crystallized aconitia.**—Powdered aconite root is exhausted by strong alcohol, containing one per cent. of tartaric acid; the liquid is distilled at a moderate heat, contact with the air being avoided; the residue is taken up with water to remove fatty and resinous substances, and then agitated with ether to remove coloring matter. An alkaline bicarbonate is now added to the acid aqueous solution until effervescence ceases, after which it is agitated with ether, the ethereal liquid concentrated and mixed with some light petroleum benzin, when the aconitia will be obtained in colorless rhombic or hexagonal tables which are soluble in alcohol, ether, benzol and chloroform, and insoluble in glycerin and the oils of petroleum. Its composition is represented by  $C_{27}H_{40}NO_{10}$ .

**Crystallized nitrate of aconitia** is readily obtained by neutralizing nitric acid, sp. grav. 1.42, with the alkaloid and concentrating the solution; the crystals are voluminous.

**Apomorphia.**—One part of pure morphia and twenty parts of pure hydrochloric acid are introduced into a strong tubular glass vessel having at least fifteen times the capacity of the mixture; the open end is then carefully sealed, the tube introduced into a metallic tube, closed by a screw cap, and the whole immersed for three hours in an oil bath, heated to between 140 and 150°C. (near 300°F.) After cooling, the tube is opened (no gas being disengaged), the liquid diluted with water, and bicarbonate of sodium added in excess, whereby apomorphia mixed with morphia is precipitated. The liquid is decanted, and the precipitate exhausted by ether (or chloroform?), which dissolves only the apomorphia. The ethereal solution is mixed with a few drops of hydrochloric acid to precipitate crystalline chlorhydrate of apomorphia, the crystals are rapidly washed with some cold water, and recrystallized from boiling water. To obtain the new alkaloid from this hydrochlorate, its concentrated aqueous solution is precipitated by bicarbonate of sodium, the white precipitate is rapidly washed with a little cold water and at once dried.

Thus prepared, apomorphia is a greyish amorphous powder, which is pretty freely soluble in water, the solution rapidly turning green in contact with air; its solution in syrup, kept in well closed vials, does not undergo this change. It is distinguished from morphia by its complete solubility in ether and benzol; it is reddened by nitric acid, and turns brown with iodic acid, but ferric chloride imparts a rose (not a blue) color. Composition,  $C_{17}H_{17}NO_2$ .

**Monobromated camphor** is recommended to be prepared by pouring upon camphor contained in a retort a thin stream of bromine until the camphor is liquefied, heating by a water bath until bromhydric acid ceases to be given off, and crystallizing the residue from boiling alcohol.

**Cataplasm of Fucus crispus.**—A sheet of carded wadding is evenly spread out, a concentrated mucilaginous infusion of *Fucus crispus* (Irish Moss) poured on it, and this covered with another sheet of wadding of the same size. By beating lightly with a brush, the jelly is made to penetrate the wadding very evenly, and the whole is exposed to the moderate heat of a drying closet until the water has been expelled, when it resembles a sheet of thick cotton and has acquired no odor. When intended for use, sufficient of the wadding is placed in a large plate and moistened with nearly boiling water, whereby the jelly swells considerably, the saturated solution of the emollient principles of the fucus remaining inclosed in the wadding.

**Syrup of Chlorhydrophosphate of Calcium.**—12.50 grams calcium phosphate (prepared by precipitating chloride of calcium with phosphate of sodium) are diffused in 340 grams distilled water, and just sufficient (about 8 grams) hydrochloric acid added to dissolve the calcium salt; 630 grms. white sugar are dissolved in the liquid without heat, and 10 grms. essence of lemon mixed with the strained syrup.

**Syrup of lactophosphate of calcium** is prepared, like the preceding, from 12.50 grm. calcium phosphate, sufficient (about 14 grms.) concentrated lactic acid, 340 grms. distilled water, 630 grms. sugar, and 10 grms. essence of lemon.

**Syrup of acid phosphate of calcium** is prepared in precisely the same manner, only substituting for the acid a just sufficient quantity (about 18 grams) of phosphoric acid, sp. grav. 1.45.

The solutions corresponding to the three syrups above are made by employing 17 grams of the calcium phosphate, increasing the corres-

ponding acid in proportion, and using enough distilled water to make the whole weigh 1,000 grams.

**Glycerite of Sucrate of Calcium.**—Mix 80 grams of burned lime with 160 of sugar, and add in small quantities, gradually, 700 grms. of water. After 24 hours, filter, add to the filtrate 160 grms. glycerin, and enough water to make 1 liter.

**Liniment of Sucrate of Calcium.**—Olive oil, 200 grms.; glycerite of sucrate of calcium, 100 grms. Mix.

**Infusion of Coca.**—Coca leaves 10 grms., boiling water 1,000 grms.

**Wine of Coca.**—Bruised coca leaves 30 grms., 60 per cent. alcohol 60 grms., macerate for 24 hours; then add wine (vin de Lunel) 1,000 grms., macerate for 10 days with frequent agitation, and filter.

**Elixir of Coca.**—Coca leaves 100 grms., 60 per cent. alcohol 600 grms., macerate for 10 days, express strongly, and mix the liquid with 400 grms. simple syrup. Filter.

**Extract of coca** is made by displacement with 60 per cent. alcohol, and evaporation to a soft extract.

**Syrup of Coca.**—Coca leaves 100 grms., boiling water 1,000 grms., infuse for 24 hours, express, filter and dissolve 175 grms. sugar in each 100 grms. of the filtrate.

**Iodinized Cotton.**—2 grms. of finely-powdered iodine is sprinkled over 25 grms. of cotton as uniformly as possible, which is then introduced into a wide-mouthed glass stoppered bottle that had been kept for a few minutes in nearly boiling water to expel some air. The stopper is then securely fastened and the bottle heated for at least two hours to a temperature of  $100^{\circ}\text{C}$ ., until the cotton has become uniformly impregnated with the iodine. The bottle must be allowed to cool before it is opened, and the cotton, which contains 8 per cent. of iodine, must be kept in glass-stoppered vials (see also "Amer. Journ. Pharm.," 1876, p. 131).

**Diastase.**—Malt, of which the germ has attained two-thirds the length of the barley grain, and dried at  $50^{\circ}\text{C}$ ., is ground, macerated at the ordinary temperature for 5 or 6 hours with twice its weight of water, then expressed, filtered and the liquid mixed with twice its bulk of 95 per cent. of alcohol. The precipitate is collected, spread in thin layers upon plates of glass, and rapidly dried in a current of air at a temperature of  $45^{\circ}\text{C}$ .

8.5 grm. of diastase added to 200 grm. of paste containing 10 grm. of starch yield a liquid which filters very readily and decolorizes five times its volume of Fehling's solution.

## ON DETECTION OF ADULTERATIONS IN OLEUM THEOBROMÆ.

BY EDWARD LAMHOFFER, PH.G.

(*Abstract from an Inaugural Essay.*)

As the purity of some of the commercial samples of cacao-butter has lately been suspected, I have made, at the suggestion and under the direction of Prof. Maisch, an investigation of the article, with a view of ascertaining its *fusing point, adulterations and mode of detection*. My first object was to procure an oil of doubtless purity, which I could use as a standard in my researches. This I obtained by packing the finely-ground seeds of the principal commercial varieties of cacao into a long conical percolator, and extracting the fat by means of petroleum-benzin. The benzin was then removed by spontaneous evaporation, and the oil purified by melting it and filtering, while hot, through paper. The yield of oil by this process varied from 38 to 51 per cent., viz.: Guayaquil, 46 per cent.; Carracas, 38 per cent.; San Blass, 45 per cent., and Balli, 51 per cent.

Guayaquil, Carracas, San Blass and Maracaibo are generally used here in the manufacture of chocolate, and it is from these varieties that we obtain our commercial oil. The species called "Balli" is from the small island (Balli) east of Java, and was obtained from the Dutch Department of the Centennial Exposition. In order to ascertain the fusing point, the oil was melted and drawn up in capillary tubes of the thickness of a knitting needle, and about one and a half inch in length. To get the oil completely congealed and hardened, the tubes were exposed to a freezing temperature for several days. As it was my intention to ascertain if and in what measure the fusing point could be used as a criterion for the purity of the oil, I tried also several commercial samples and samples which I adulterated with mutton- and beef-suet. The results were as follows: Guayaquil melted at 91°F.; Carracas at 91.5°; San Blass at 90°; Balli at 89.5°; commercial sample A at 90°; commercial sample B at 91.5°; Carracas contaminated with 5 per cent. mutton suet at 91.5°; Carracas with 5 per cent. beef suet at 91°, and Carracas with 20 per cent. beef suet at 85°.

The fusing point varies between 89° and 91.5°F. The British "Pharmacopœia" and some standard works in this country place the fusing point erroneously at 122°F. I came to the conclusion that the fusing point, as a means for determining any adulteration of the oil,



cannot be relied on, as an amount of animal fat from 5 to 10 per cent. is not indicated at all, and a larger adulteration is not likely to occur, as the taste and odor would be sufficient to betray such a gross sophistication.

To ascertain the purity of the different oils, I applied Björklund's test as given in the "*Pharmaceutische Zeitschrift für Russland*," 1863-1864, p. 401. This is done by dissolving in a test-tube 5 grs. of the oil in 10 grs. of purified ether, sp. gr. 0.728, shaking the mixture until the solution becomes clear, and then immersing the tube in water of the temperature of 32°F. By this method I obtained the following results: *Balli*. After 2½ minutes the fat commenced to crystallize out in small granules of the size of a pinhead; after 10 minutes, the solution was still transparent and the separation of crystals continued with increased rapidity, forming on top of the solution, and then falling to the bottom; after 30 minutes the whole of the fat had crystallized out. Left at a temperature of 58°F. for several hours, the oil became re-dissolved, forming a yellowish and perfectly transparent solution.

*Carracas*. The separation of crystals commenced after three minutes, they being somewhat larger than in the preceding; after ten minutes the same phenomenon as in *Balli*; after thirty-eight minutes the contents of the tube became solidified, re-dissolving after standing at the temperature of 58°F.

*Guayaquil*. Crystals appeared in the clear solution after five minutes. The complete separation and re-dissolving took place as in the two preceding varieties.

*San Blass* and *commercial sample A* behaved the same as *Carracas*.

*Commercial sample B* was more than five years old, and of a rancid odor and taste. The formation of those minute crystals occurred only after fifteen minutes, and it took nearly an hour before the whole became crystallized.

I tried also the behavior of mutton suet and commercial stearin dissolved in ether, and subjected to the same test, and observed that neither one of them gave a clear solution with ether, but formed a mixture resembling an emulsion.

Dissimilar was the result I obtained with mixtures of these fats and pure cacao-butter. Thus, a mixture of 50 per cent. of either one with the latter gave as clear a solution as pure oil, which, however, on immersing in water congealed nearly at once. Oil, which I adulterated with

5 per cent. of suet, became cloudy in two minutes after dissolving in ether and exposing to water of  $32^{\circ}\text{F.}$ ; the cloudiness gradually became more intense and increased, until after ten minutes a few crystals of cacao-butter separated out of the milky liquid. In forty minutes the separation of the oil was complete. Leaving the tube stand at a temperature of  $58^{\circ}\text{F.}$ , unlike the pure oil, it did not re-dissolve to a transparent solution, but preserved a remarkable cloudy appearance. In a sample contaminated with 2 per cent. of stearin, the solution acted similar, with the exception that the turbidity was not quite so intense.

I further tried the behavior of pure cacao butter and mixtures of this oil and stearin in solutions of petroleum benzin, forming a mixture in the same proportion as with ether. I obtained with this solvent nearly the same results, differing only in this respect, that the separation of crystals in pure solutions occurs somewhat slower, and adulterated oils when subjected to this test do not become completely separated when immersed in water, even when left in there for several hours; while the solutions in ether solidify generally between thirty and forty minutes. The methods which indicate the purity or adulteration of the oil may be summarized as follows: Pure cacao dissolves entirely in ether or benzin, separating out in minute granular crystals when immersed in water of  $32^{\circ}\text{F.}$ , the liquid portion remaining transparent until, after thirty or forty minutes, the whole of it is solidified. 2d. When, after solidification, the oil is left to remain at a temperature of about  $58^{\circ}\text{F.}$ , it will redissolve, forming a transparent solution.

Adulterations with animal fats are indicated, 1st, by the cloudy appearance of the solution which follows after immersing in water of  $32^{\circ}\text{F.}$ ; 2d, by the slow and incomplete congelment of the oil when subjected to the test with petroleum benzin.

The amount of sophistication is shown, 1st, by the more or less intense cloudiness, and by the slow or rapid formation of it with the above test. Largely adulterated oils congeal almost instantly, while the turbidity of a solution with 2 per cent. of stearin becomes visible only after two minutes.

2d. By the more or less complete congelment of the oil when treated with petroleum benzin.

3d. By the more or less intense cloudiness of a congealed solution when left for twelve hours at  $58^{\circ}\text{F.}$  If largely adulterated, the mixture will not become liquid at all at that temperature.

The reason for the different behavior of adulterated oils is found in the fact that pure cacao butter when subjected to this test separates from its solution in minute granular crystals, which are gradually formed, while animal fats, under the same circumstances, congeal at once and "en masse." When, therefore, mixtures of these fats are tested in this way, the animal fat will separate at once, causing a turbidity, and thereby delaying or obscuring the formation of the small crystals of cacao butter.

The opaqueness of sophisticated oil, when the mixtures are left at 58° F., seems to be due to the insolubility of animal fat in ether or benzin at that temperature, remaining undissolved in the clear solution of cacao butter, and thus indicating even a minute quantity of such adulteration.

## EXAMINATION OF A CURE FOR LOVE OF LIQUOR.

BY JOHN M. MAISCH.

During the winter of 1873-74, I received a small sample of a white powder, accompanied by a printed slip, stating that the powders had been known in Germany for a long period as "Das wunderbare Heilmittel," the wonderful remedy, and that they had been the acknowledged instrument of rescuing many thousands from the graves of drunkards. Regarding their effects and use the directions stated :

"The peculiar effect of this remedy is to gradually remove that terrible knowing sensation of the vitals spoken of ; imparting by its action a natural, healthful tone and vigor to the whole nervous system, and promoting a desire for hearty, generous food, which should be freely supplied. Soups, stews or roasts of oysters, clams or other shell fish, have proved to be very valuable allies with the action of the powders. Hot coffee or tea, with their smoking aromatic odors greeting the appetite of the patient on first rising in the morning, or when coming to reason after a debauch, have, in very many instances, aided the remedy in its good work, and assisted in warding off desires for alcoholic stimulants.

"These powders are so compounded that (being first dissolved) they may be administered in coffee, tea or ordinary drink to the person whom it is desired shall be cured, and should be given during his or her sober intervals."

The originator was one Dr. Henry Zell, who sold them at first at the rate of \$3.00 per dozen, but "with the view of doing greater good to a greater number," offered them then at \$1.00 per dozen, or \$5.00 for six dozen.

It had been the intention to make a quantitative analysis, but an ap-

plication for one or two unopened powders was not responded to, and the quantity received being quite minute, it was barely sufficient for a few qualitative experiments which were made by Mr. Wm. L. Harrison, of Petersburg, Va., who reported his results as follows :

"The powder was partly soluble in water. The solution, like the powder, had a purely sweet taste, and on the application of Trommer's test a brick-red precipitate of cuprous oxide was obtained, showing the presence of *sugar*. The undissolved white powder dissolved readily on the addition of dilute acid with slight effervescence, indicating a *carbonate*. Of bases, *magnesium* alone was found. A second portion of the original powder was ignited, and the white residue dissolved by a drop of hydrochloric acid ; the solution was not affected by sulphuretted hydrogen or sulph-hydrate of ammonium ; carbonate of ammonium produced a white precipitate, which was completely soluble in chloride of ammonium, and again precipitated by phosphate of ammonium. The liquid filtered from this precipitate, evaporated and ignited, left no residue. The powder, therefore, consists of *sugar* as the main ingredient, with a little *magnesium carbonate*."

It will be seen from these few experiments that a brisk sale of these powders would benefit that celebrated doctor's pocket, at least to the same extent as a good dose of magnesia would assist in restoring a toper after a debauch, particularly when combined with "hot coffee or tea." Although that doctor is not quite correct in asserting the powders to be "vegetable in their nature," yet we believe him when he warrants them "never to sicken the patient," and to be "entirely harmless."

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### AN EXPLANATION.

PHILADELPHIA, April 12, 1877.

*Editor American Journal of Pharmacy :*

My attention has been called to an unlooked-for interpretation of a sentence in my paper, headed "Adulterations," which was published in the March number of the "Journal." On page 130, after alluding to a firm of this city, I continue thus : "It is but a repetition of that of many others," and this has been construed to refer likewise to "this city," an interpretation which I confess might be given to the sentence, but which was not in the least intended. I can hardly believe that any of your readers should have accepted the erroneous construction

as having been designed by me; but, to guard against any possible imputation, and knowing as I do that the manufacturing and wholesale drug houses of this city compare favorably in character and integrity with those of any other city of our country, I would request you to bring this explanation to the notice of your readers, and oblige

Yours, etc.,

RICH. V. MATTISON.

## GLEANINGS FROM THE FOREIGN JOURNALS.

BY THE EDITOR.

**Detection of Free Mineral Acid in Vinegar.**—Vinegar always contains organic salts of the alkalies, which on evaporation and incineration are converted into carbonates. By the addition to the vinegar of a mineral acid in sufficient quantity, these salts are decomposed, and on evaporation and ignition the ash left will have a neutral instead of an alkaline reaction. Based upon these considerations, the following method for the estimation of free mineral acid has been devised by Otto Hehner: 50 cc. of the vinegar are mixed with 25 cc. of decinormal soda solution, or with a sufficient quantity so that on evaporation and incineration an ash having an alkaline reaction is left; the residue is dissolved in decinormal sulphuric acid corresponding to the soda solution, boiled to expel carbonic acid, filtered, the filter washed with water, the liquid reddened by litmus and neutralized by decinormal soda solution, the volume of which indicates directly the proportion of free mineral acid present, 100 cc. of the standard solution corresponding to 0.49 gram of  $H_2SO_4$ .

The same process is likewise applicable for the determination of free mineral acid in *lime-* and *lemon-juice*.—*Phar. Jour. and Trans.*, Nov. 11, 1876, from the *Analyst*.

**Purification and Uses of Petroleum.**—M. Masson, pharmacien, of Lyons, has succeeded in removing the disagreeable odor of petroleum by the following process: Into a vessel containing 100 kilos of petroleum are separately introduced, by means of a long funnel, 60 grams each of sulphuric and nitric acid, and 500 grams of stronger alcohol are carefully poured upon the surface of the petroleum. The alcohol gradually sinks to the bottom, and when coming into contact with the acids heat is developed and some effervescence takes place, but not in proportion to the quantity of the liquids. Etherial products



of a very agreeable odor are formed, and the substances thus treated acquire an analogous odor, at the same time becoming yellowish in color. The operation lasts about an hour, after which the liquids are thoroughly agitated for some minutes with water, and after resting for eight or ten hours the purified petroleum is drawn off.

The lower stratum, which is a mixture of the acids, water and alcohol, may be used for deodorizing the heavy oils of petroleum, by agitating them well for twenty minutes, and after twelve hours washing the oil twice with milk of lime, to remove the free acids. It will then have the same, but a weaker odor, as the light petroleum first treated, and answers well for lubricating purposes.

Petroleum thus purified may be used in pharmacy for many purposes. All the tinctures for external use may be prepared with it, like the tincture of arnica, alkannet and camphor; it may be used for dissolving ether and chloroform, like alcohol, and, combined with fats or glycerin, promises to be of great utility in the treatment of skin diseases and for other purposes.

The author calculates that alcohol is annually used in French pharmacy amounting in value to at least two million francs, of which about 70 per cent., representing an annual expenditure of 1,400,000 francs, might very properly be replaced by this purified petroleum, which will also undoubtedly find many industrial applications.—*Rép. de Phar.*, 1876, p. 742.

#### Generation of Sulphurous Acid for use as a Disinfectant.—

Thos. W. Keates proposes for this purpose to burn carbon bisulphide in a suitable lamp, either pure or mixed with fixed oils or liquid hydrocarbons, such as petroleum; 100 grs. of carbon bisulphide will thus yield 168 grs. or 245 cubic inches of sulphurous acid. In a room containing 7,300 cubic feet, it was found that by burning 280 grs. of the bisulphide the atmosphere was so far charged with sulphurous acid that it was impossible to remain in the room for more than a few seconds.

The boiling point of carbon bisulphide being as low as  $110^{\circ}\text{F.}$ , it is necessary that the lamp in which it is burned should be furnished with a well-fitting screw cap.—*Chem. News*, Dec. 8, 1876, from the *Lancet*.

Thos. Stevenson avers that he has used that method for generating sulphurous acid for nearly seven years, and that no special form of lamp is required, but that an ordinary porcelain or copper dish may be used and the liquid in it ignited with a match. Instead of generating

280 grs. of sulphurous acid, he recommends at least five times the quantity named above, so that the room might contain one-tenth per cent. of the disinfecting gas.—*Ibid*, Dec. 15.

**Spiritus Formicarum Containing Lead.**—A. Geheeb reports having met with this spirit, which is still often used as a domestic remedy in some parts of Germany, containing considerable lead, which was probably dissolved from the cooler.—*Archiv d. Phar.*, Jan., 1877, p. 41.

## AN ADULTERATION OF ACONITE ROOT.

By E. M. HOLMES, F.L.S.,

Curator of the Museum of the Pharmaceutical Society.

Aconite root possesses such powerful properties that it is very important the medicinal article should be, as far as possible, of uniform strength and quality. Yet this is by no means the case, for it is difficult to find in a commercial sample one root in a dozen which upon fracture appears sound and in good condition. This is due, according to Hanbury, to its being gathered indiscriminately by peasants, who regard neither the most advantageous time for collection, nor the proper species. This is not to be wondered at, considering that the wholesale price in this country is as low as 6*d.* per lb. As the root is sold by the German peasants to buyers who obtain a profit by supplying wholesale dealers in Germany, and these again have to obtain a profit before it is exported to this country, it is obvious that the prices paid to the peasants must be too small to pay for careful collection.

In some districts aconite root is said to be gathered by intelligent herb and root collectors, who are well acquainted with the plants they gather, but what is collected by them is probably retained for home consumption, and the inferior samples exported.

From the cheapness of the root, and from the fact that few roots have the distinctly conical appearance of aconite, it is evident that it would scarcely pay to adulterate it. Adulteration, then, must either result from careless collection or from accidental admixture.

The root which has lately been found mixed with aconite is that of Masterwort *Imperatoria Ostruthium*, Lin., an umbelliferous plant, official in the Edinburgh Pharmacopœia so late as 1792. It is a native of mountainous countries, and grows in similar districts to those in which aconite is found. As it is still official in the German Pharmacopœia, its accidental occurrence in aconite root from Germany is not surprising.

Its value in this country is double that of aconite root, and it is

obvious, therefore, that it has not been purposely used as an adulteration.

In the sample examined the masterwort root amounted to about 5 per cent.

The characters by which it may be distinguished from aconite root are as follows :

The rootstock, Fig. 1, for it is properly so called, is less tapering than aconite root, is slightly compressed, and exhibits several warty zones, indicating periods of growth. In some specimens these are much less prominent than in others, but can always be traced. The whole of the rootstock is finely wrinkled transversely, so as to give it a somewhat annulated appearance. The transverse section presents very marked characters. The central portion is of a yellowish white color, and exhibits a more or less complete ring of brownish dots. The portion next the bark presents elongated dots of a paler color, which give this portion of the section a radiate appearance. With the aid of a lens these dots are seen to be filled with an oily or resinous substance. The cortical portion is very thin. The rootstock has an odor comparable to bruised ivy leaves, or to the plant commonly known as cow parsley (*Chærophylum sylvestre*, Lin.), and a pungent, slightly bitter taste.

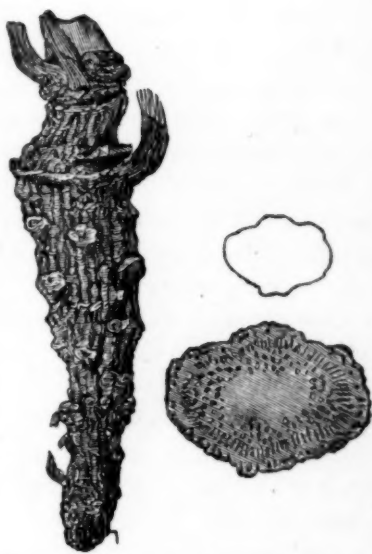


Fig. 1. *Imperatoria Ostruthium*, Lin.<sup>1</sup>

Aconite root is very variable in appearance internally ; frequently the centre is quite hollow. Some pieces have a brownish color, others are white and starchy, and a few present a resinous fracture. In a sound root, however, which is usually starchy or slightly resinous, a faint line may generally be traced, which marks out the medullium. This line has usually five to nine prominent angles, see Fig. 2, the

<sup>1</sup> In the wood-cuts the roots are represented of the natural size ; the sections are shown both of the natural size and magnified.

number of angles being larger as the section approaches the top of the root. If the root be wetted and examined with a lens, the line is seen to consist of an irregular line of vessels, which form small bundles in the apex of the projecting angles. The cortical portion occupies nearly half of the circumference of the root.

From the above characters it will be observed that the presence of oil receptacles in the masterwort root at once distinguishes it from aconite. A spirituous tincture of masterwort, when dropped into water, gives a blue fluorescence, resembling that of quinia, and a slight

milky, and communicates to the water its peculiar odor. By these characters its presence might probably be detected in a mixture containing tincture of aconite.

Although the small percentage in the sample examined would lead to but very slight diminution of strength in the tincture of aconite made from it, yet the appearance and odor communicated to a mixture containing such a tincture might lead to much inconvenience in pharmacy, and throw discredit



Fig. 2. *Aconitum Napellus*, Lin.

upon the dispensing department.

It is quite time that the attention of cultivators of medicinal plants in this country should be drawn to the bad quality of the imported root, and that attempts should be made to cultivate it extensively in this country. It is very probable that, as in the case of henbane, a good article would command a fairly remunerative price. It is obvious, also, that until it is possible to obtain a plentiful supply of the roots of *Aconitum Napellus*, free from any admixture of other species, it will not be possible to obtain an accurate knowledge of the alkaloids contained in that species.—*Phar. Jour. and Trans.*, March 17, 1877.

## ON OSTRUTHIN.

BY E. VON GORUP-BESANEZ.

This body was discovered by the author in 1874 (see Proceedings American Pharmaceutical Association, 1875, p. 453), in the root of *Imperatoria ostruthium*. The following is an outline of the process by which the largest yield has been obtained:

The young roots of masterwort, 1 to 2 years old, are cut and digested with 90 per cent. alcohol at 50 to 60°C. until the liquid ceases to become colored; the mixed tinctures are distilled to one-third, and this then evaporated until on cooling a thick liquid remains. This residue is exhausted by a mixture of three parts of ether and one of ligroin, of low boiling point, until a firm plaster-like mass remains. The solution is mixed with more ligroin, which separates a brown sticky mass, and the decanted liquor is evaporated spontaneously from flat dishes, and if necessary decanted from the oily sediment forming. Yellow crystals are afterwards deposited, which are freed from adhering resinous matter by spreading them upon porous plaster tiles. The crystals are then dissolved in ether, the solution again mixed with some ligroin, freed from the deposited oily matter, and evaporated spontaneously. Repeated recrystallization from ether yields larger but still yellow crystals, which are obtained white by dissolving them in alcohol and adding water until a permanent precipitate begins to appear.

Ostruthin crystallizes from ether in the triclinic system, the crystals resembling rhombohedrons. It fuses at 115°C. and congeals at 91°C. to a wax-like mass, becoming crystalline; is inodorous, tasteless, burns with bright smoky flame, and yields by dry distillation a thick yellowish oil, with an odor resembling Canada balsam. It is insoluble in cold water, sparingly soluble in benzol and petroleum benzin and freely soluble in alcohol and ether. The alcoholic solution has a faint blue fluorescence, which becomes magnificently blue on the addition of water; more water precipitates it. All its solutions are neutral and optically inactive. Its composition is  $C_{14}H_{17}O_2$ .

Ostruthin hydrochlorate,  $C_{14}H_{17}O_2HCl$ , is obtained by passing muriatic acid gas into a not very dilute alcoholic solution of ostruthin, which congeals; the mass is then washed with water and crystallized from ether. It forms white, tasteless and inodorous needles, soluble in alcohol, ether, benzol and chloroform, less in petroleum benzin.



Ostruthin hydrobromate is prepared in the same way, but on attempting to crystallize from ether, it was decomposed, bromine being liberated.

A combination with hydriodic acid could not be obtained, owing to the liberation of iodine.

Among the products of decomposition obtained by adding ostruthin to fusing potassa, *resorcin* was found. Treated with strong nitric acid, it is first converted into a resinous body and finally into *oxalic acid*; but when boiled for a long time with nitric acid, diluted with three parts of water, it yields *styphnic* and a little *oxalic acid*.

Chlorine yields with difficulty, bromine more readily, substitution compounds.—*Liebig's Ann. d. Chem.*, clxxxiii, p. 321-343.

### AVA, OR KAVA-KAVA.<sup>1</sup>



1. Superficial longitudinal section of root, showing the meshes of wood beneath the thin bark.

This plant, *Piper methysticum*, Miq., is cultivated in Tahiti, Hawaii and many other islands of the Pacific Ocean, and is known there under the names of *yaquona*, *ava-ava*, *kawa* and *kava-kava*. It is a shrub about 6 feet high, with branches attaining a thickness of 1 to 1½ inches. Leaves 4 to 8 inches long, nearly as wide, cordate with a short acumination, apparently smooth, but under the magnifier appearing covered with short hairs mainly upon the veins, 10 to 12 ribbed with the three central veins usually close together for about half an inch; petiole 1 to 1½ inch long, dilated at the base. *Piper excelsum*,

Forst., indigenous to New Zealand, resembles the former plant, and is known there as *kava-kava*, but is used only as tea and against tooth-

<sup>1</sup> Condensed from the "Pharmac. Jour. and Trans.," Aug. 19, 1876, and from "Phar. Zeitschr. f. Russ.," Oct.; the cuts from "New Remedies."—EDITOR.

ache. Its leaves are usually about half the size of the former, and are 5 to 7 ribbed.

The fresh root weighs 2 to 4 lbs., occasionally even 20 lbs., and loses more than half its weight on drying. It is large and fibrous, but rather light and spongy. Underneath the very thin greyish-brown bark a net-work of the woody tissue becomes apparent, the meshes being filled with a yellowish-white cellular tissue, while some are quite empty. A variety known as *marea* is lemon-yellow, and another, called *avini-ute*, flesh-colored internally.

The transverse section shows numerous linear wood bundles radiating from near the centre and separated from each other by broader soft medullary rays; the soft central portion contains but few anastomizing wood bundles, which form a net-work and are placed at right angles to the radiating bundles. The agreeable odor of the root reminds of lilac (*Syringa vulgaris*, L.) and meadow-sweet (*Spiræa ulmaria*, L.). It has a faintly pungent and scarcely perceptible bitter taste, increases the flow of saliva, and produces a slight astringent sensation.

The root and extreme base of the stem are usually employed in the form of infusion made by macerating a drachm of the scraped drug in a quart of water for five minutes. Unlike other remedies for gonorrhœa, this infusion has an agreeable taste; its slight bitterness increases the appetite and does not produce nausea.

According to Cuzent, the root contains a light yellow volatile oil, 2 per cent. of an acrid resin, and about 1 per cent. of an indifferent crystalline principle, called kavahin or methysticin, which is obtained in needles from a concentrated tincture, is colored red by hydrochloric acid, the color changing to bright yellow on exposure to the air, and acquires a purplish-violet color changing to green, by concentrated sulphuric acid (see, also, "Amer. Jour. Phar.," 1860, p. 133).



2. Transverse section of root.

In small doses, kava acts as a stimulant and tonic, and produces in larger doses an intoxication which differs from that produced by alcohol, being characterized by drowsiness and incoherent dreams; excitement on hearing noise is said to be produced by the root grown in moist soil. Since neither the resin nor kavahin are soluble in water, the medicinal properties do not depend upon these principles. It has been used with success in erysipelatous affections, but when used as an intoxicating drink produces a cutaneous disease, which in Tahiti is called *arevarea*, and appears in old toppers in the skin becoming dry, cracked and ulcerated. The natives of Nukahivi use kava in phthisis and bronchitis, a small dose being taken at bedtime; it has also been locally employed in gout and internally in gonorrhœa since 1857.

Recently a drug was received from Paris under the name of kava-kava, which on examination proved to be composed of matico leaves and anatto fruits. (For further information on this drug see "Amer. Jour. Phar.," xvi, p. 105, and xxvi, p. 236.)

#### NOTE ON A PIPER CALLED JABORANDI, IN THE PROVINCE OF RIO JANEIRO.<sup>1</sup>

BY A. GUBLER.

Besides the *jaborandi* of Dr. Coutinho (*Pilocarpus pennatifolius*), the sialogogue and sudorific properties of which are so remarkable, there exists in Brazil, as is known, a large number of plants bearing the same popular name, which are used against the bites of serpents, etc. All the botanical species, however, are included in two families, Rutaceæ and Piperaceæ. Among the latter, *Piper citrifolium* and *P. reticulatum* have been mentioned as particularly efficacious. A *jaborandi* from the province of Rio Janeiro, which has been the subject of a note in the "Journal de Thérapeutique," for November 25th, by Professor Gubler, appears to be referable to either of these species, which perhaps should be combined in one.<sup>2</sup>

The plant is a shrub, usually attaining, but sometimes considerably exceeding, a metre in height. The stems are fasciculated at the base, simple and denuded for half their length, cylindrical, very straight and articulated like the bamboo; towards the top they bear dark-green leaves that are alternate, shortly petiolate, oval-lanceolate or slightly

<sup>1</sup> "Journal de Pharmacie et de Chimie" [4], vol. xxv, p. 128.

<sup>2</sup> DeCandolle describes the leaves of *P. citrifolium* as being feather-veined, those of *P. reticulatum* as 7 to 9 nerved and rounded or cordate at base.—EDITOR.



PIPER METHYSTICUM, *Miq.*



PIPER CITRIFOLIUM, Lam.



obtuse. In the axils of these are sometimes found catkins of male flowers. The figure of the plant is from a sketch drawn by Dr. Jules Crevaux. A supply of the plant, collected by Dr. DaVeiga, of the Brazilian navy, accompanied the sketch, and has been investigated chemically, physiologically and therapeutically.

According to Prof. Gubler, the entire plant exhales a slightly-aromatic odor, which becomes more pronounced upon bruising the leaves between the fingers. When chewed, the taste is at first slightly acid, then warm and aromatic, and finally very piquant and comparable to that of pyrethrum root. This taste is met with in the stems, and especially in the roots, where it attains a high degree of intensity, chiefly in the moderately large portions, about the size of a crow quill, which are externally of a rather decided grey color. The more slender and whitish portions are rather insipid, and the finest have hardly any taste at all. These differences are dependent upon the constitution and thickness of the cortical layer, which appears to be the seat of the active principle.

When a picked fragment of the root is chewed, at first no sensation is produced on the palate; the prickling is first manifested at a short interval after the vegetable tissue becomes impregnated with saliva. It would appear that the active principle of the drug does not exist ready formed in the plant, but is due to a special fermentation in the presence of water, similar to that which sets free oil of bitter almonds or oil of mustard. When once manifested, the piquancy rapidly acquires great energy, being accompanied by painful shootings and vibratory tremblings of the tongue and lips, as though these organs were traversed by an electric discharge. At the same time a very active secretion of all the buccal glands becomes developed, and especially an extraordinarily abundant salivation. These phenomena persist for a few moments after the sapid pulp has been rejected, but then decrease and disappear, leaving a sensation of freshness and a certain degree of anæsthesia of the palate. After a few minutes, however, all the parts return to their normal state.

Upon swallowing the saliva charged with the active principle, an impression of heat is produced at the back of the throat, which extends to the œsophagus and stomach, where it gives rise to a sensation resembling hunger.

The chemical composition has been studied by M. Hardy, who, in

some preliminary experiments with infusions, was able to demonstrate the presence of an alkaloid.

Some leaves and stalks were therefore powdered, and left to macerate for four days with three times their weight of 90° alcohol, acidulated with 8 grams of hydrochloric acid per liter. The alcohol was then decanted and fresh alcohol added, and this was repeated three times. The alcoholic solutions were concentrated by distillation, and the aqueous solution evaporated and decomposed by ammonia in the presence of excess of chloroform. Upon evaporation of the chloroform the base was left free, but still impure. It was therefore treated with water acidulated with hydrochloric acid, which dissolved the major part of it; the solution was filtered, evaporated and again decomposed by ammonia in the presence of excess of chloroform. Upon evaporation of the chloroform solution the base was deposited, having a crystalline appearance and slightly-yellowish tint.

The base presents the characteristic reactions of alkaloids. Its solution gave a white precipitate with iodide of mercury and potassium, and with iodine in iodide of potassium. Another portion of the leaves was distilled with water to obtain the volatile oil, but only a small quantity was collected, insufficient for investigation.

The alkaloid dissolved easily in water slightly acidulated with hydrochloric acid, and such a solution was used by Dr. Bochefontaine to study its physiological action upon animals. He found that it did not act upon the heart or influence the muscular contractility; it was not a convulsivant. It appeared to have the power to prevent the mechanical or electric excitations of the mixed nerves, such as the sciatic, from being transmitted to the muscles. It appeared even to possess the paralyzing power at the outset, and this property would seem to distinguish it with curare. Indeed, the paralyzing action of curare is usually preceded by some slight spasmodic movements, which have not been observed in frogs poisoned with the alkaloid of false *jaborandi*.

Prof. Gubler remarks that the effects observed after the administration of the plant to the human subject, although in small doses, had not led him to expect so violent an action from the alkaloid of the Rio piper. The first experiment, in 1875, with the comparatively fresh plant, did not reveal any great activity compared with the excessive power of *Pilocarpus pennatifolius*. Besides the peppery sensation in the mouth and throat and the heat in the stomach, doses of 4 to 6 grams

of the leaves in infusion only caused slight salivation and diaphoresis. More recent experiments have been still less fruitful. In a case of acute albuminous nephritis its effects were absolutely *nil*; whilst, in the same patient on the following day, an infusion of 4 grams of *Pilocarpus jaborandi* in 200 grams of water caused abundant salivation and sweating, and an increased excretion of urine.

From these negative facts Prof. Gubler draws the following conclusions :

(1) That there exists a striking difference between the mode of action of *Pilocarpus pennatifolius* and of *Piper citrifolium*. With an insignificant topical action the *Pilocarpus* manifests a diffused action of great energy; the second, though very aggressive to the organs at the entrance to the *primæ viæ*, appears to be nearly inert when it once enters the circulation.

(2) That this inertia of the *Piper* is more apparent than real, and due to the insufficiency of the doses employed. In future it will be desirable to administer larger doses of the leaves, or better still, of the root, to obtain physiological effects.

But if the alkaloid discovered by M. Hardy is a certain test of the efficacy of the *Piper citrifolium*, the experiments of M. Bochefontaine show that it will be advisable not to seek to obtain the first manifestations through the secretions, as the new agent is a poison of the motor system closely allied to curare.—*Phar. Jour. and Trans.*, March 10.

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## MINUTES OF THE PHARMACEUTICAL MEETING.

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The College met April 17, at 4 p. m. Mr. A. P. Brown was called to the chair, and E. D. Boyer appointed registrar *pro tem*. On motion of Prof. Maisch the reading of the last minutes was dispensed with.

Mr. Ch. L. Mitchell exhibited a mineral water from New Zealand, and the annual report of the Auckland Institute. Prof. Maisch presented the annual report from the Smithsonian Institution of the Board of Regents of that Institution, for the year 1875; from Dr. Weddell, a reprint from *Comptes rendus* of his essay, in which he advocates the use of cinchonidia in place of quinia in the treatment of intermittent fevers. Also, from Chas. W. Riley, Consul of the Orange Free State, a handsome case from the Centennial Exposition, containing a specimen of the so-called cream of tartar fruit, together with a number of seeds and the separated acidulous pulp; also, from the same gentleman, specimens of Japanese chemicals and medicinal plants, likewise from the late exhibition, and comprising oxide and sulphate of zinc,

golden sulphuret of antimony, acetate of lead, tartar emetic, sulphate of copper, flowers of *Malva sylvestris*, German chamomile flowers and hops.

In regard to the cream of tartar fruit, Prof. Maisch stated that it belonged to the genus *Adansonia*, and probably to *A. Gregorii*, which is stated to be a native of Northern Australia. The fruit is smaller, and the taste of the acidulous pulp differs from that of *A. digitata*, the baobab, of which handsome specimens had been on exhibition from Jamaica. In answer to a question he stated that he had not had the time yet to ascertain the composition of the pulp. He also called attention to the Latin names by which the Japanese chemicals were designated, and which were similar to those used in Germany and Holland; for instance, *Zincum oxydatum sulfuricum*.

Mr. Mitchell exhibited and explained the uses of a "pill finisher," consisting of a circular disk of brass, which is more durable than when made of wood.

Prof. Maisch presented several samples of *Capsula Catapota Plicatiles*, which are used in Germany to some extent in place of the wafer capsules introduced by Mr. Limousin, of Paris. The former are thin, like paper, folded by machinery, and being made of gelatin, may be readily closed by moistening the edges, become pliable when immersed in water, and may then be swallowed like wafer capsules, which latter, however, appear to be more elegant in appearance and more useful in application.

Prof. Remington read a paper on "Aromatic Elixir of Licorice" (see page 231), exhibited a sample of the preparation, and showed its effectiveness for disguising the bitter taste of sulphate of quinia. Mr. Brown stated that he made such an elixir by dissolving 8 grains of ammoniacal glycyrrhizin in 1 fluidounce of simple elixir. Inquiry having been made about a *compound elixir of eucalyptus*, which has been recently introduced for the same purpose, it was stated to owe its effects likewise to glycyrrhizin, but appeared to be flavored with oil of eucalyptus, besides other aromatics.

Mr. Gaillard read a paper on "Weights and Measures" (see page 226.) Remarks on the adoption of the metric system in medicine and pharmacy in our country were made by Professors Maisch and Remington and Mr. Bullock, who stated that its general adoption could be secured only by educating medical and pharmaceutical students in its use, so that they were able to think in this system without the necessity of calculation.

Prof. Maisch informed the meeting that the tables for converting apothecaries' weights and measures into grams, which were calculated by him and published in the February number of the "Am. Jour. Phar.," had been copied by the Treasury Department at Washington, D. C. Referring to the use of measures in British and American pharmacy, he remarked that it would be of interest to trace their adoption in Great Britain, since the Edinburgh and Dublin Colleges had recognized the use of weights for liquids at a time when these were measured by the London College.

Prof. Maisch also called the attention of the meeting to two low-priced microscopes, on exhibition, both giving very clear definitions; one was a simple microscope, costing \$12; the other, a compound microscope, at \$35.

There being no more business before the meeting, a motion to adjourn was seconded and carried.

ED. D. BOYER, Registrar *pro tem*.

## MINUTES OF THE COLLEGE.

PHILADELPHIA, MARCH 26th, 1877.

The annual meeting of the Philadelphia College of Pharmacy was held this day at the Hall of the College, No. 145 North Tenth street.

Robert Shoemaker, Vice-President, in the absence of the President, occupied the chair.

Sixteen members were present.

The minutes of the last meeting were read and approved.

The minutes of the Board of Trustees for the last three months were read by William C. Bakes, Secretary of the Board, and, on motion, adopted.

Letters from Charles Wirgman and J. H. Stein, tendering their resignations as members of the College, were read, and, on motion, accepted.

Thomas S. Wiegand, Librarian, read the following report for the year. It was on motion, accepted.

The Librarian respectfully reports that the work of completing the arrangement of the Library has occupied considerable time since the last report.

There have been received since last report, donations from the Smithsonian Institution, twelve annual reports which were not upon our shelves, and three quarto volumes of the "Contributions to Knowledge," published by the Institution; twelve quarto volumes of the "Memoirs of the Academy of Arts and Sciences of Boston" have been received in exchange for certain volumes of the "American Journal of Pharmacy;" twenty volumes of works on pharmacy and chemistry have been donated by Mr. Chas. Bullock; the reports of the Commissioner of Education have been received from that bureau; the catalogues of nearly all the different national exhibits at the Centennial Exposition, held last year, have been placed in our library, together with four maps, illustrative of the Empire of Brazil, which have been mounted properly so as to preserve them. The various exchanges received for our "Journal" that possess sufficient permanent value and interest have been placed in the hands of the binder; these will amount to nearly sixty volumes.

A number of valuable illustrated works on botany, that of Nees von Esenbeck, known as the Düsseldorf collection of medical plants, also the works of Pavon, Weddell and Elliot Howard on the Cinchonas are now in the Library, having been procured by the funds left by our former member, Algernon S. Roberts. A nearly complete set of "Annales de Chimie et de Physique," the entire set of "Archiv der Pharmacie," the complete set of "American Journal of Science and Arts," the London "Pharmaceutical Journal and Transactions," the "American Journal of Pharmacy"—all of which are standard works of reference—while many others, equally valuable in the collateral branches of science, will enable members desiring information to pursue their investigations with facility. Should any member have any work belonging to the Library in his possession, he would confer a favor by informing the Librarian; vol. III, first series, of "American Journal of Pharmacy" has been missing for a long time.

As the care of these volumes has been entrusted to the Librarian, upon consultation with several members, he has had prepared two books of blanks—one a receipt, to be signed by any one entitled to the use of the Library, and the other a blank guarantee, to be filled up and signed by any member who wishes his assistants to enjoy the use of the Library; the first of these is of course destroyed when the book is returned; the other remains in force as long as the assistant uses the Library with the consent of his employer. These precautions have been found essential, as books have been borrowed, and the memoranda regarding them have been lost or mislaid and the books not returned.

Thomas S. Wiegand, chairman of the Sinking Fund Committee, read his report, showing an amount at interest and available for use, considerably in advance of that on hand last year. The report was accepted.

The report of the Publication Committee was read by Prof. J. M. Maisch, and is as follows. It was, on motion, accepted.



The Committee on Publication respectfully report that the "Journal" has been issued with a good degree of punctuality on the first of each month.

The committee has aimed at the publication of such a monthly number as would place in stock sufficient to meet a future expected demand; of these it has devoted fifty copies of each issue to be laid aside, and at the end of the year completing the volume, to have them tied up in volumes. These volumes are not broken for the supply of single numbers.

The accumulation of stock in "Journals" has induced the committee to offer the volumes from 1836 to 1852 at the price of \$1.00; from 1853 (when the bi-monthly issue commenced) to 1869 at \$1.50 per vol.

Of sixteen volumes the committee can only supply scattered monthly numbers.

The General Index to the first forty volumes did not meet with the attention it deserved from those possessing the "Journal." The committee thinks the advantage of the index will be more apparent in future years, and that but little loss will result to the College from the publication.

In common with all periodicals, the "Journal of Pharmacy" has felt the depression of the last year; collections have been attended with more delay, and the amount realized falls somewhat behind former years; there are but few debts, however, which will be ultimately lost. The number of subscribers and advertisers has kept up very well, under the adverse condition of business.

The committee refers with pleasure to the energy and promptness of the Business Editor, as one of the elements of its sound financial condition.

HENRY N. RITTENHOUSE,  
*Chairman of Committee.*

The Editor, in his report to the Publication Committee, alludes to the contributors to the "Journal" for the last year, and gives an account of the number who furnished original communications, and much other statistical matter of interest connected therewith. A considerable amount of matter was obtained for publication from the Pharmaceutical Meetings, which have of late been highly interesting and instructive. He says:

The Editor is pleased to report that not only has the "Journal" been regularly issued, but likewise that the interest manifested by its readers and contributors has been unabated.

The Editor would again urge upon the members of the College the importance of sustaining the Pharmaceutical Meetings, partly by attending them as regularly as possible, partly by the presentation of papers and by participating in the discussions.

Thanking the various authors for their valuable assistance, the author bespeaks for the "Journal" a continuation of the lively interest shown by all its numerous friends.

JOHN M. MAISCH, *Editor.*

The Treasurer of the Publication Committee, Mr. Bullock, presented his report, by which it is shown that, notwithstanding the depressed condition of affairs throughout the country, the financial condition of the committee is about equal to that heretofore exhibited, which may be attributed largely to the energy and ability of the Business Editor, whose favorable report entitles him to the thanks of the College.

The annexed report of Joseph P. Remington, Curator, was read, and, on motion, accepted.

Since the last report was presented, many alterations and additions have been made to the Cabinet. A year ago the work of re-arranging the old specimens, and finding places for the new, was begun, and it was not until the latter part of May, 1876, that sufficient progress had been made to warrant an exhibition at the reception held in that month.

The International Exhibition has been the means of largely adding to the stock of specimens, until now there is a condition of affairs similar to that of three years ago, when the cry was for more room; there is this difference, however, that the number of specimens has now more than trebled.

The greater number of substances are now *distinctly*, and it is believed accurately, labeled, with the exception, however, of the recent additions, sufficient time not having elapsed to commence this work.

The thanks of the College are due for the presentation of the following collections of drugs, preparations, chemicals, etc.:

From Joseph Bosisto, of Victoria, Australia, thirty-eight specimens of Eucalyptus products and opium yielding 10 per cent. morphia; Morphia from the Victorian Opium; essential oil of Peppermint.

From A. Beslier, Paris, a handsome dried specimen of Thapsia Garganica, and sixteen samples of pharmaceutical preparations, including Baume Tranquille, Thériaque, Resin de Thapsia, various distilled waters.

From the Egyptian Commissioner, General H. Brugsch, twenty-three specimens, including Egyptian Opium, Poppy capsules exhibiting the incisions made in obtaining opium, Colocynth apples with the rind adherent Sesame seed, oil of Marjoram, etc.

From the German Commission, seventeen specimens of Anilin products, and chemicals.

From the Austrian Commission, for Jacques Pollok, fifty-six specimens of essential oils, essences and ethers.

From the Italian Commission, through Angelo Ganelli, eighty-three specimens of drugs, including Manna, Liquorice, Liquorice Root, etc.; chemicals of many kinds, Cream Tartar, Sulphur, etc.; pharmaceutical preparations, elixirs, salts, etc.

From E. H. von Baumhauer, Netherlands Commissioner, thirty-two specimens of drugs from the colonies.

From F. Crace, Calvert & Co., a complete collection of Carbolic Acid products in the case in which they were exhibited.

From the Russian Commissioner, nine specimens of Isinglass, some being rare forms of this Russian product.

The committee upon the Cabinet purchased the valuable collection of Singapore products, exhibited by Behn, Meyer & Co., embracing Nutmegs, Cloves, Sago, Sago Flour, Nutmeg Fruit, Leaves, etc., Gum Copal, Tapioca Flour, Cubebs, Stick Lac, Pipe Gamboge, Mace, Cube Gambier, Flake Tapioca, Gum Damar, etc.

The total number of specimens in the Cabinet is 1592, of which number 983 are drugs, 291 chemicals and 313 miscellaneous preparations.

In concluding this report, the Curator would respectfully recommend the erection of additional cases to accommodate the new specimens, which otherwise will not be available for examination.

JOSEPH P. REMINGTON, Curator.

On motion, the recommendation of the Curator, to have suitable cases erected to accommodate the specimens recently obtained from the Centennial Exhibition, was referred to the Board of Trustees for their action.

William C. Bakes presented a box, containing a book which contains all the proceedings of the semi-centennial meeting of the College held February 23d, 1871. It is intended that this box shall be opened at the Centennial meeting of the College, which will take place February 23d, 1921.

The package was accepted, and directed to be placed in the safe of the College.

Professor Maisch called attention to the suggestions made by Dr. Squibb in a recent pamphlet for changing the mode of revising the U. S. Pharmacopœia, and also to the objections presented by Dr. H. C. Wood to the method suggested therein.

The subject, in the opinion of Professor Maisch, was one fraught with great interest to the medical and pharmaceutical professions, and in order that the matter might be properly considered by the College, he proposed that a special meeting should be called on Monday, April 9th, at 3 o'clock P.M.

The subject was discussed by Professor Remington and others, all of whom concurred in the propriety of the meeting.

It was then, on motion, ordered that a meeting of the College be called on the day suggested, and a hope was expressed that the members generally would attend and participate in the discussion.

The Secretary was requested to invite the Professors of Chemistry and Materia Medica in the University of Pennsylvania, the Jefferson Medical College and the Women's Medical College to attend and take part in the deliberations.

This being the Annual Meeting, an election for officers, trustees and the standing committees was ordered. The Chair appointed Messrs. E. C. Jones and E. M. Boring tellers, who reported the following gentlemen unanimously elected to the positions enumerated below, viz.:

*President*—Dillwyn Parrish.  
*First Vice President*—Chas. Bullock.  
*Second Vice President*—Robert Shoemaker.  
*Treasurer*—Samuel S. Bunting.  
*Recording Secretary*—William J. Jenks.  
*Corresponding Secretary*—Alfred B. Taylor.  
*Board of Trustees*—Robert Bridges, M.D., John M. Maisch, Daniel S. Jones, Thomas S. Wiegand, James T. Shinn, T. Morris Perot, William B. Webb, Joseph P. Remington.  
*Publication Committee*—John M. Maisch, Henry N. Rittenhouse, Thomas S. Wiegand, James T. Shinn, Charles Bullock.  
*Sinking Fund Committee*—Thomas S. Wiegand, T. Morris Perot, James T. Shinn.  
*Editor*—John M. Maisch.  
*Librarian*—Thomas S. Wiegand.  
*Curator*—Joseph P. Remington.  
 Then, on motion, adjourned.

WM. J. JENKS, *Secretary*.

## MINUTES OF THE SPECIAL MEETING.

PHILADELPHIA, April 9th, 1877.

A special meeting of the Philadelphia College of Pharmacy was held this day, at the hall of the College, to consider the proposed alteration of the mode of revising the "United States Pharmacopœia," as suggested by Dr. E. R. Squibb, of Brooklyn, N. Y.

Besides the members of the College, there were a number of guests in attendance, amongst whom were Drs. W. S. W. Ruschenberger, Horatio C. Wood, Chas. H. Thomas and Clara Marshall, of Philadelphia, and Professor P. W. Bedford, of the New York College of Pharmacy, all of whom had been invited to attend and take part in the discussion.

Robert Shoemaker, Vice-President, was called to the chair, and stated that at the last meeting of the College, two weeks previous, the meeting adjourned to meet on April 9th for the consideration of this subject.

That portion of the minutes of the last meeting which specified the object for which this meeting had been called was read and the chairman announced that the subject was now open for discussion.

PROF. J. M. MAISCH. Since I am the mover of this resolution for a special meeting, it is, perhaps, proper for me to say a few words to place the whole matter before this meeting. Dr. Squibb, of New York, at the meeting of the American Medical Association held a year ago, proposed that the mode of revising the "Pharmacopœia" should be entirely changed; and, more particularly, that the American Medical Association should take charge of the "Pharmacopœia."

This, in my opinion, is by far the most important portion of Dr. Squibb's proposition, since nearly all else is dependent upon this. The second important proposition, which, however, depends upon the first, is that the "Pharmacopœia" should be revised by a council of five, of which the American Medical Association shall appoint a member of that body to act as President of the council; that the Surgeon-General of the Army and the Surgeon-General of the Navy shall be invited

each to nominate one member, and the American Pharmaceutical Association to nominate two members of that council. That is, in my opinion, the second important proposition, and all others are of far less importance; these two propositions differ so entirely from the manner in which the "Pharmacopœia" has been heretofore revised, that, if adopted, there would certainly be a very great and radical change. It should be remembered that the "Pharmacopœia" was revised by delegates appointed by the incorporated medical societies and colleges and by the colleges of pharmacy of the United States. These delegates met every ten years, and in the interval each one of these bodies was expected to have subjected the "Pharmacopœia" to a preliminary revision. The results of these labors were taken to Washington, where a general plan for the final revision was agreed upon, resulting in the appointment of a committee, to whom the preliminary revisions by the different societies were referred.

If the American Medical Association take charge and become the proprietors of the "Pharmacopœia," as proposed by Dr. Squibb, it will be optional with them whether or not they will adhere to the second proposition laid out by him, to call in the aid of the medical staffs of the Army and Navy, and of the pharmacists; for then, of course, they may constitute the council as they please, and change the mode of revision at will. That appears to me to be a very serious objection to Dr. Squibb's plan. Another objection lies in the fact that the American Medical Association is, like the American Pharmaceutical Association, an unincorporated body; whilst the delegates to the Decennial Convention in Washington were admitted only from incorporated bodies. I do not know how far the representation of the medical colleges goes in the American Medical Association, but surely pharmacists have no voice there, and could do nothing to prevent the Medical Association from changing the mode of revision at any time, and from appointing the council in an entirely different manner from that recently proposed.

While I freely admit that many of the minor propositions of Dr. Squibb are eminently proper, I believe that those two points are essentially wrong. In connection with the last one, there is yet what appears to me an important consideration, namely, that this council of five men must be necessarily appointed from contiguous localities, and that it cannot be expected that they should be familiar with the wants of the entire country; and to rely upon what is published in the journals as to what should be changed or admitted or dismissed from the "Pharmacopœia" is entirely insufficient. Such information should come from bodies who have a direct interest in the matter.

THE PRESIDENT. There are several friends present this afternoon, not immediately connected with the College, and it is hoped they may feel entirely free to unite in the discussion as freely as the members of the College, or any person interested who may not have been specially invited.

MR. A. B. TAYLOR. Mr. President: Some time since I received from Dr. E. R. Squibb, a pamphlet, and commenced writing a brief review of that pamphlet. That was previous to the calling of this meeting. On hearing that this meeting was called, I thought it would be perhaps a good place to ventilate this subject.

On motion of Prof. Remington, Mr. Taylor was requested to read his review. The paper is published on page 209.

PROF. REMINGTON. Does Mr. Taylor present that to the College?

MR. TAYLOR. Yes.

PROF. REMINGTON. Then I move that it be referred to the Publishing Committee.

The motion was passed.

DR. H. C. WOOD. I think it was the Apostle Paul who once said that he would not go to a certain people, for though terrible in letter he would not be much in person. I will not encroach upon your time further than to state what the College of Physicians have done. They have passed a series of resolutions, preceded by a preamble, in which it is stated that they take this method of expressing themselves, for they are not entitled to representation in the American Medical Association, though entitled to representation in the National Convention. They are simply resolutions of protest against the American Medical Association taking the action proposed. I think it is allowable to state that in a letter from Dr. John C. Riley, of Washington, upon whom will devolve the duty of calling the next Decennial Convention, he states that he cannot see but that he is in honor bound to call the convention in 1880; so it seems there is no doubt but that the convention will be called; and I think the whole movement of the American Medical Association will turn out a failure.

THE PRESIDENT. Mr. Taylor's paper so completely covered the ground that I presume there is little further to say.

PROF. MAISCH. When I first heard of Dr. Squibb's views in regard to the change, it occurred to me at that time, that it was rather better for individuals not to publicly express their views, but that that should be left to those bodies whose delegates are to assemble in the Decennial Convention. It is for that reason that I, as one, have never spoken about it publicly, either in the Pharmaceutical Association or in the "American Journal of Pharmacy." But it has been my intention to bring it before this College, which College has had a hand in the revision for the past forty years, and, I believe, should speak out its views in regard to the proposed change. I do not know that those views could be arrived at in any other way than by calling a meeting and by presenting resolutions. I would therefore move, that a committee of, say three, be appointed to report a series of resolutions for the action of this College. In the meantime the other members may discuss the subject further.

The motion was passed, and the President appointed Prof. Maisch as Chairman, who nominated Mr. Taylor, who nominated Mr. Bullock, and the three members thus named were confirmed by the meeting, and withdrew.

DR. CHARLES H. THOMAS. I would like to inquire in regard to the appointment of this committee what the scope of their power is; the words of Prof. Maisch's resolution are not distinct in my mind; whether the resolutions which they are instructed to prepare are intended as an answer to Dr. Squibb only, merely negative as far as the propositions advanced by him are concerned; or whether they really propose to go to the root of the matter, and to take up and give us some ground to form an opinion as to the right procedure in relation to certain forms. I infer that it was going rather to the point of negation to Dr. Squibb's resolution.



PROF. REMINGTON. I know, somewhat, the views of the gentlemen who are on the committee. Of course I cannot say exactly what sort of resolutions they are going to bring in; but the opinion I have heard expressed, is that the idea of Dr. Squibb putting this revision of the "*Pharmacopœia*" into the charge of the American Medical Association was not one which would be fraught with success, as to the producing of a good book, and that they believe, and I suppose a majority of the members here believe, that the same reforms which Dr. Squibb has spoken of in his pamphlet can be brought about by the National Convention appointed for that purpose, which will embrace delegates from a wider range than can be taken in by the American Medical Association; and that Dr. Squibb has foreshadowed many excellent reforms. But the principal point of difference is that he is wrong in referring the whole matter to the American Medical Association, and giving them the charge of it; that what can be done, can be done better by a special convention for that purpose; that while the previous conventions have not produced a perfect work—that must be admitted—I do not go as far as Mr. Taylor in his remarks, that the "*Pharmacopœia*" cannot thus be made; but I think we can assume that a convention appointed for the purpose can do all the work that the American Medical Association can do, and more too.

DR. THOMAS. I am sure that I agree with Prof. Remington's idea, that the Pharmacopœial Convention is the proper authority for the proper revision of the "*Pharmacopœia*." That furnishes the ground for a few words in regard to the future revision of the "*Pharmacopœia*." I was a member of the last convention at the last decennial revision, and I well remember the interest I took in a proposition which was made, and resolution passed, instructing the Executive Committee to have liquids presented in weight, throwing out measures of capacity. Mr. Taylor made a slight reference to it in his paper. He used the words: "derelict on the part of that committee." I remark a pamphlet of Dr. Squibb's, in which he severely handled this committee for disregarding this resolution of the convention, from which they received their only authority to do the work at all. They threw out this resolution itself, and stated, in the preface to the *Pharmacopœia*, that they felt they had sufficient reason for doing so, and were willing to take the responsibility for this, and said that the change would not pay for the trouble expended in the matter.

This brings me to the further point which I think it would be well to take into consideration, for I think this proposition of Dr. Squibb's is broad-reaching in its action. One reform which I think we ought to bring into the "*United States Pharmacopœia*" is the idea which is the foundation of several European *Pharmacopœias*. My attention was called to this some three years since by Prof. Maisch. I was interested in an article published in the "*American Journal of Pharmacy*," in July, 1874. The idea is one that renders a universal *Pharmacopœia* possible, and that is arranging for weights. Weigh all substances in compounding, not by specific weight, but in parts by weight, so many parts of this and so many parts of that, rather than any particular amount. That is the idea that underlies the *Pharmacopœias* of Germany, Scandinavia and some others. As I examined the German *Pharmacopœia* I believe it should be taken as a model, and ought to be care-

fully observed in all future revisions of our Pharmacopœia. And if in these times of considerable heat—and there will probably be a lively discussion in the Medical Association at its next meeting—if this College could send some positive recommendation in regard to the revision of the "Pharmacopœia," and take into account the method adopted in the German Pharmacopœia (six or eight were obliterated in making this grand Pharmacopœia); if this College can give the American Medical Association a suggestion of the Pharmacopœia, which shall be assimilated to the German, and lay the foundation for an easy approach to the foundation of a universal Pharmacopœia, it will have done a very valuable work for the Medical Association and for this College; for it would be for their mutual interests.

PROF. P. W. BEDFORD, New York. At the meeting of the American Pharmaceutical Association, held in this building last summer, the subject was brought up by Dr. Squibb, who offered a series of resolutions which were preceded by a resolution, that the "American Pharmaceutical Association devote an hour of its third session for the discussion of its interests in the pharmacopœia, with a view to the adoption or rejection of the following preamble and resolutions;" and then follow the preamble and resolutions in regard to the Medical Association taking the work and the Pharmaceutical Association offering its hearty co-operation, etc. When this was followed by Dr. Squibb's remarks, I think the majority of those present hardly conceived the full idea that he was making known. It became evident to those present that it was intended to be brought up in the afternoon for discussion and vote whether to adopt the resolutions or not. The members of the American Pharmaceutical Association Committee on Revision were present, and concluded that it was hardly the fair way to get at it, and they prepared another set of resolutions, which are on record in the proceedings, and were intended to be non-committal.

After the discussion had been gone into for some time, Dr. Squibb said that this was not intended for adoption, but merely for discussion. At the time the resolution was not particularly re-read, and after the Association had heard a little more discussion, it laid the subject on the table. But after the adjournment of the meeting I read the resolution, and found that it said not only "discussion," but also "with a view to the adoption or rejection of the resolutions" which Dr. Squibb offered. The matter came up rather unexpectedly, and it provoked a good deal of discussion and some personality, which I was sorry to hear.

The question at issue is, shall the Medical Association control the revision of the "Pharmacopœia" or not? Our Colleges of Pharmacy are representative bodies, and interested in this work; and availing myself of your invitation to take part in these proceedings, I think the views of outsiders may not be entirely uninteresting. Shall this College, or any college, permit itself to acquiesce in any proceeding resulting in identifying itself with the Medical Association at all? The more I have looked into the pamphlets, the more I am convinced that the whole thing is wrong. There is no method suggested by Dr. Squibb that equals in its provisions the provisions already made by the National Convention; therefore it would be entirely wrong for any of the Colleges of Pharmacy to give any adhesion whatever to this proposed plan of Dr. Squibb's. There should be a decided negative against it.

The plan which has been working can be continued, and reform accomplished there much better than in the proposed plan of Dr. Squibb.

But what I think has been peculiar is this, in regard to its introduction, which was first for adoption and, finally, for discussion only. It seems to me the matter was sprung upon us rather curiously. I think the Colleges of Pharmacy should express themselves decidedly in this matter.

The gentleman has referred to the instructions of the Convention to the committee being entirely disregarded. I had hoped to ask whether there were not some other recommendations that were not totally disregarded. I would also state, that as chairman of the Committee of Revision for the Pharmaceutical Association, I have just issued a circular to the Committee on Revision, and it will also be sent to every member of the Association, in which the resolutions of the committee are printed; and it is hoped that the members of the Association will most heartily render aid and assistance in carrying out the revision. And when we meet next summer there will be some practical results of the work at which we have been engaged for the past two or three years, but of which we have done but little.

PROF. REMINGTON. In regard to the question which Dr. Thomas brings up as to the matter of revising the "Pharmacopœia" formulas down to one universal plan, quantities by weight and parts by weight, doubtless at the next revision we shall not only have that reform instituted, but also the introduction of the metrical system. The recent discussions upon the advantages of the use of this system have resulted in awakening the pharmaceutical mind all over this country, as to the desirability of introducing it into the "Pharmacopœia;" and I for one cannot see how the next Committee of Revision can fail to adopt both of these reforms. This stirring up that Dr. Squibb has given us I cannot help but regard as a very good thing, for we have crept on too much in the old way. If it results in the rejection entirely of his plan, as it seems likely it will do—for all the Convention has to do is to hold its meeting at the regular time—at that time, I have no doubt, we will see a very great change in the revision.

PROF. BEDFORD. I would state one point: that last summer the recommendations of the sub-committee, composed of Mr. Balluff and myself, to approve rules for the guidance of the committee of the Pharmaceutical Association, were published in the "Druggists' Circular," and it was asserted by Dr. Squibb in the meeting that took place here, that this gave rise to the belief that the Pharmaceutical Association were revising the "Pharmacopœia;" but the peculiar point I want to bring out is, that to the invitation which was extended to pharmacists to communicate alterations and amendments to the committee, I got exactly one reply.

THOMAS S. WIEGAND. There are on the desk the reports of three different decennial preliminary revisions of the "Pharmacopœia," made by committees of this College. It will give some idea of the amount of labor that this College of Pharmacy has been in the habit of putting before the Decennial Convention for the revision of the "Pharmacopœia." Dr. Squibb says, very wisely and justly, that the profession of medicine cannot do without pharmacy in the work of revision. He knows very well what work has been done by the pharmacists; and it is in this connection, as an evidence, that I have brought before this meeting three different reports by our College, which have been to Washington and been considered by

committees of final revision; and, after having been so used, have been returned to the College to be deposited among their documents. I think they will give an adequate idea of the amount of work necessary to make a report on the subject to the Decennial Committee to act upon. Other Colleges are equally as active as ours, and all that work it would be entirely optional with this proposed committee or council to accept or reject. If any of the members feel an interest in examining that kind of work, these books will perhaps convey a better idea as to what has been done in years past than anything else. Such works cannot be made without great labor. It would be a matter of some interest if the American Medical Association were to appoint a committee to see the amount of work which the pharmacists have performed. No medical association appoints a committee to go over the ground and prepare work; and if the apothecaries have undue weight there, I can see how they are entitled to it, for the reason of their having done vastly more work.

PROF. ROBERT BRIDGES Mr. Wiegand is mistaken on one point, in saying that no medical colleges have undertaken such a work as this. The College of Physicians has always appointed a committee two years before, who has thoroughly prepared a report, and sent it. I am sorry to say not many medical societies have done the same.

MR. E. M. BORING. The labor of the pharmacists shown us by Mr. Wiegand, that Dr. Squibb proposes to have paid for, was a labor of love from this College.

The Committee on Resolutions, Prof. Maisch, chairman, made a report, which, after some verbal alterations, was read, as follows:

*Resolved*, That the Philadelphia College of Pharmacy does earnestly deprecate and object to the proposed transfer of authority for revising the "United States Pharmacopœia" from the National Pharmacopœial Convention, as proposed by Dr. E. R. Squibb, believing that any such transfer would be subversive of the best interests both of the medical and pharmaceutical professions, and that the nearest approach to a national character in the work will be that derived from the convention now specially provided for the purpose.

*Resolved*, That the Secretary of this College be directed to forward a copy of these resolutions to the President of the American Medical Association, to be laid before that body.

On motion of Prof. Remington, the resolutions were passed unanimously.

PROF. MAISCH. I desire to say a few words in regard to the manner in which our Pharmacopœia has been gotten up. The history of the establishment of our National Pharmacopœia is a peculiar one, and shows that the pharmacists have had an interest in it from the beginning of the establishment of pharmaceutical societies. The first "Pharmacopœia" appeared in 1820, previous to which time the subject attracted the attention of the New York County Medical Society, where Dr. Lyman Spaulding submitted a series of resolutions, including a plan which divided the United States into four sections, and proposed that in each section the incorporated medical societies should form a pharmacopœia, and these four pharmacopœias should be merged together by a National Convention. It appears, however, that in those four districts only one convention was held, at Washington, and from that resulted the first pharmacopœia. At that time there was no pharmaceutical society in existence in the United States. The Philadelphia College was established in 1821, a year after the first "Pharmacopœia of the United States of America" was issued. In 1820, the President of the Convention received authority to call,

after ten years, a convention of all incorporated medical societies and colleges, and in the original plan delegates from volunteer associations were included. When the second convention was called, of course a call could not be issued including the pharmaceutical societies, the first one of which was established over a year after the convention had been held.

In 1830, however, I find in the historical introduction to that "Pharmacopœia" the following: "In accordance with the powers granted them, the Committee on Publication submitted an amended draft to the Philadelphia College of Pharmacy, by whom, after a careful review, a resolution was adopted approving of the work, and recommending the members of the College to use the work." It is plain from this, that, as soon as the National Convention saw an opportunity of inviting the co-operation of the pharmaceutical bodies it was done, and that, secondly, the "United States Pharmacopœia" is owned by right as much by the representatives of the American pharmaceutical societies as by the American medical societies; in other words, it is joint ownership of the two branches.

In 1840 there was again formal authority conferred upon the Committee of Revision "to request the co-operation of the Colleges of Pharmacy of the United States." And then it was that the President of the Convention was directed to issue, in 1849, the call including the Colleges of Pharmacy in the United States. The co-operation of the Colleges of Pharmacy was sought in 1830 and 1840, but in 1850 a formal invitation was given to take part in the Convention.

PROF. BEDFORD. The physicians of New York, it appears to me, do not entertain a very favorable idea of this plan of Dr. Squibb; there is a call out for the 23d inst., for the New York County Medical Society, to discuss this same proposition. So far as I know, amongst the medical profession and the members of that society, they do not favor this going to the Medical Association, but think it should follow the course heretofore taken.

On motion of Professor Remington, the meeting adjourned.

WILLIAM J JENKS, Secretary.

## PHARMACEUTICAL COLLEGES AND ASSOCIATIONS.

**American Pharmaceutical Association.**—The Committee on Prize Essays have made the following report:

The undersigned committee, having carefully examined the papers presented at the meeting of the American Pharmaceutical Association, held at Philadelphia in September last, and printed in the proceedings, have arrived at the decision that none of the essays offered comes fully within the terms of the stipulations made by the donor, restricting the award "to the best essay or written contribution containing an *original* investigation of a medicinal substance, determining new properties or containing other meritorious contributions to knowledge, or for improved methods of determined merit for the preparation of chemical or pharmaceutical products."

In view of the apparent difficulty of obtaining, by the present method, original communications of sufficient importance and merit to justify the awarding of a prize, the committee would respectfully suggest the following modification of the present plan, which is believed to give better results, and does not conflict with any of the stipulations in the original grant:

1. The duties of the Committee on Prize Essays shall be two-fold, viz.:



a. To select from the queries proposed at any one meeting those, a satisfactory reply to which would be a valuable addition to our knowledge and be worth competing for. They shall publish these selected questions within four weeks after the annual meeting.

b. To examine and determine the merits of the answers to the queries designated as worthy to be competed for by their predecessors.

2. All answers presented with a view to compete for the prize shall be handed in anonymously, but distinguished by a motto and accompanied by a sealed envelope directed to the president, enclosing the author's name and address, and bearing on its face the same motto as the essay.

3. The committee shall determine, within eight weeks after the annual meeting, which if any of these anonymous essays may be worthy of the prize, and they shall apprise the president of their decision, who shall communicate to them the name of the author. The unsuccessful papers shall be returned to the president, who alone shall be authorized to return them to their authors on demand. The successful essay shall then be handed to the Publishing Committee.

4. Should none of the papers, expressly offered as competing for the prize, be found deserving thereof, the committee may select any other paper presented to the Association, either as answer to a query or as a volunteer essay, which they consider of sufficient merit to be entitled to the award.

Respectfully submitted,

CHARLES RICE,  
GEORGE C. CLOSE,  
EDW. P. NICHOLS,

*Committee.*

Our Canada friends are already actively engaged in making preparations for the next meeting of the American Pharmaceutical Association, which is to be held in the city of Toronto in September next. The attractiveness of Niagara Falls will doubtless induce many members to spend there a day or two previous to the meeting, and a large attendance is expected at the opening session.

**National College of Pharmacy, Washington, D. C.**—The annual meeting was held April 3d, 1877, President R. B. Ferguson in the chair. The minutes of the last annual meeting, of the special meetings and meetings of the Board of Trustees held during the year were read and approved. The reports of the various standing committees, which were quite voluminous, occupied much time in reading; the suggestions contained therein were referred to the next Board of Trustees.

The retiring President delivered his annual address, which was replete with valuable suggestions. The College elected officers for the ensuing year, as follows: John A. Milburn, President; Jas. D. O'Donnell and Giles G. C. Simms, Vice Presidents; John C. Fill, Secretary; W. G. Duckett, Treasurer; H. E. Kalusowski, Librarian and Curator; W. S. Thompson, Chas. Becker, J. W. Drew, R. B. Ferguson, W. F. Scala, Chas. F. Moore, Trustees. The usual Standing Committees were appointed, after which the College adjourned.

The following gentlemen graduated at the Fifth Annual Commencement, held April 30th: T. E. Chidister, Ohio; T. G. DeMoll, D. C.; T. M. Coombs, D. C.; C. G. Dulin, D. C.; John J. Stafford, Maryland.

**Georgia Pharmaceutical Association.**—*Editor American Journal of Pharmacy:* As you are interested in the progress of pharmacy throughout the country, I will briefly call your attention to a lively interest displayed April 10th by the votaries of the mortar and pestle, on the occasion of the Second Annual Meeting of the Georgia Pharmaceutical Association, which met at Atlanta in the Markham House. The members present represented some of the most intelligent pharmacists of Georgia. About forty-five answered to their names.

After an address of welcome by Walter A. Taylor, Ph.G., the following officers were elected for the ensuing year: R. H. Land, President; E. W. H. Hunter, R. B. Holl and O. Butler, Vice Presidents; John Ingalls, Treasurer; Walter A. Taylor, Secretary.

Your correspondent, Mr. Shoemaker, of Philadelphia, and Mr. Cheatham, of New York, were cordially invited to seats in the meeting. President Hunt, of Macon, delivered his annual address, which was full of interest. T. A. Cheatham, Ph.G., the orator of the day, opened the afternoon session with a splendid essay, principally devoted to the disreputable practice of the extensive use of the various nostrums and patent medicines of the day, and urged the educational standard of the pharmacist as a remedy for the evil. Mr. Schumann also read a paper on the same subject. Several other papers, answers to queries given last year, were read, and for the coming session many queries upon subjects in pharmacy were read and accepted readily by the members, each showing a lively interest in the work begun a short time ago by a few. Steps were taken by the Association to have a change in pharmacy and poison laws. After the chair had appointed three delegates to the American Pharmaceutical Association, the meeting adjourned, to meet in Augusta on the second Tuesday in April next. At night the druggists of Atlanta had a long table in the Markham House loaded down with the good things of this life for the inner man, and right well their guests appreciated it. Humorous toasts and jolly good feeling prevailed, and at 12 o'clock all decided that they had had enough of a "good thing," and left with pleasant recollections and a stimulated interest in the progress of pharmacy. As a visitor, I can say that Georgians have gone at the work in good earnest, and I thank them for their many courtesies.

W. B. ADDINGTON.

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Cincinnati College of Pharmacy.—The Commencement Exercises were held on the evening of the 21st of March, at College Hall, and were opened with prayer, after which the President, Dr. R. M. Byrnes, conferred the degree of Graduate in Pharmacy upon the following gentlemen: Chas. A. Doerr, Wm. Feemster, Gus. A. Fieber, J. A. Horsnyder, Donn. W. Light, J. H. Linneman, J. C. Otis, Chilton S. Porter, Louis Reinert, Jr., F. E. Schmuck, Chas. Sofge, R. C. Wangler, Herman Wilfert. The address on behalf of the Board of Trustees was delivered by Prof. T. A. Reamy, who spoke of the usefulness of the College and explained the important part pharmacists are expected to perform in life. The following prizes were distributed: Prof. Judge's Chemistry prize (complete set of blow-pipe apparatus) to Chilton S. Porter; Prof. Wayne's Materia Medica and Botany medal to John H. Linneman; Prof. Fennel's Pharmacy prize (elegant prescription desk-balance) to G. A. Fieber; the Alumni medal, for general proficiency, to Chas. A. Doerr. The graduating class presented to the College a collection of valuable books, Mr. Chilton S. Porter making the presentation speech, and Dr. R. M. Byrnes, as chairman of the Board of Trustees, appropriately responding. Prof. Judge next addressed the audience in his usual good style, and was followed by Mr. J. C. Otis of the graduating class, in the Valedictory. After the exercises the Alumni Association entertained the new graduates, the Faculty, Board of Trustees and a host of friends at their annual banquet, spread at the Gibson House.

## EDITORIAL DEPARTMENT.

**State Pharmaceutical Societies.**—In the present number we publish a brief account of the meeting of a State Pharmaceutical Society in the Southern section of our country, Georgia, and have occasion to note the prompt publication of the transactions at the recently-held meeting of a State Pharmaceutical Society in the Eastern part, Connecticut. Neither of these associations has been in existence much over a year, but both appear to be vigorous and full of energy, and it is a pleasure to note that in this respect they follow in the wake of nearly all their older sister organizations, none of which has as yet attained a riper age than eight years. There are now in existence State pharmaceutical associations in California, Connecticut, Georgia, Kansas, Maine, Michigan, New Hampshire, New Jersey, Rhode Island, South Carolina, Tennessee and Vermont, twelve altogether, and with the exception of one or two, which seem to be affected by the hard times, all are prospering, and the majority have had important trusts confided to them by the Legislatures of their respective States. Aside from the Colleges of Pharmacy and the Associations of its Alumni, we have a number of local societies, embracing certain cities or counties, in which meetings for scientific and social intercourse are regularly kept up.

It seems strange that similar organizations have as yet not been formed in any one of the most populous States; in fact, the territory in which no State pharmaceutical association is in existence, forms an almost unbroken belt from New York to North Carolina in the east, and westward to the great valley of the Mississippi and Missouri, not taking into consideration the thinly populated States farther West. What may be the cause of this? It certainly cannot be that there is less occasion for the union of pharmacists there than in the States enumerated above; it is not that they are less intelligent, or care less for social and scientific intercourse; but, most likely, it finds its explanation in the fact that the pharmacist and druggist is so much confined to his business, that he has little inclination to cultivate the acquaintance and friendship of others, more particularly of those who, to some extent, may be considered his rivals in business. And still the old adage, familiar to all, "All work, and no play," etc., is peculiarly applicable to the members of our profession. Those who have attended the annual gatherings of the migratory American Pharmaceutical Association all speak with pleasure of the pleasant intercourse between its members, and of the healthful recreation incidental to the respite from business cares, and notwithstanding the labors connected with the meetings. The same would be the result of the meetings of State societies; they could not meet oftener than once or twice a year, and if a suitable time be chosen, they could, and doubtless would, be well attended. Such meetings would probably be hardly ever prolonged beyond a day, and the territorial limits and railway facilities are in nearly all the States such as to admit of such a meeting with but little expenditure of time and money—an argument which has been well advanced by Mr. Dikeman, of Connecticut, in his late presidential address.

And how is the object to be consummated? We would suggest that the drug-

gists and pharmacists of the different State capitals issue a call for a meeting to take place early during the coming summer, and we have no doubt that a respectable number would respond to place each association on a firm footing at the very start. The State capitals, without exception, are easy of access, and in all suitable provisions for a successful initiatory meeting could be made. Will our pharmacists move in the matter?

**Medical and Pharmaceutical Ethics.**—The physicians and pharmacists of Antwerp have recently set an example which deserves to be emulated also in many sections of this country; if carried out in good faith by all concerned, it cannot but promote the friendly intercourse between the members of the two professions, and abate almost altogether that feeling of antagonism which is still too frequently manifested, and which, while it demands for one side the unconditional recognition and the most liberal interpretation of its acquired or supposed rights, is often but too much disposed to curtail those of the other side, or to overlook the fact that during the past century the medical and pharmaceutical sciences have progressed to such an extent as to render their complete and co-ordinate separation absolutely necessary. It cannot but be productive of good to know in what manner the amicable adjustment of such differences is attempted and, let us hope, accomplished elsewhere.

A mixed committee, consisting of three physicians and three pharmacists, appointed by the respective professions of Antwerp, has elaborated the following project, which will doubtless receive the sanction of both parties:

1. Each member of the two branches of the medical corps should abstain from interfering with the prerogatives of the other; the physician should not furnish any medicine to his patients, and the pharmacist should avoid giving medical advice; the pharmacists may, within the limits of the law, furnish medicines which may be asked for, such as a cough mixture, a sedative draught (*potion calmante*), a purgative, *copaiba* capsules, etc., without, however, advising that such or another preparation was more suitable.

2. The physician and pharmacist should conduct themselves towards each other with the sentiments of kindness (*bienveillance*) and confraternity, which unite the members of a family, and should avoid, in the presence of the client, every kind of reflection or unfair remarks (*appréciation désobligeante*); a conciliatory council should be appointed for smoothing such disputes as may arise on the subject of medical practice.

3. Finally, physicians should as rarely as possible prescribe secret remedies and pharmaceutical specialties; on the other hand, pharmacists should abstain from advertising them.

Similar resolutions, concerning the intercourse between physicians and pharmacists, have been adopted by the professions in other cities of Belgium.

**Warburg's Tincture.**—Recently we have been applied to for a formula for this tincture, which had been mentioned in some medical journals as a valuable febrifuge.

fuge; supposing it to be a new preparation, we inquired among a number of our friends, to all of whom the preparation was unknown. A lengthy leading article of the "Medical Press and Circular" (Dublin), of Feb. 21, contains a fuller account of Dr. Broadbent's paper, published in the "Practitioner," and for the benefit of our readers we make a few extracts, which are of pharmaceutical interest:

Warburg's tincture has long held a high reputation in India as a remedy of "undoubted and, indeed, unequaled power" in the treatment of the malignant malarial fevers of that country and of cholera. For a long time it was a secret remedy, but in 1875 Prof. McLean made known its composition, and gave his unqualified support to all that had been said in its favor.

The ingredients of this compound are very numerous, and in this respect its composition reminds us of the complex formulæ to be found in our old dispensaries—such, for instance, as the once celebrated Theriaca Andromachi, or the still more celebrated Mithridate. It consists of aloes, rhubarb, saffron, fennel, gentian, cubebs, myrrh, camphor, zedoary root, enula and angelica seeds. It also contains the confection "Damocratis," consisting of innumerable aromatic substances, and which was official in the "London Pharmacopœia" of 1746. Prepared chalk, which was added to correct the otherwise acrid taste of the tincture; and Boletus Laricis, or larch agaric, formerly used as a drastic purgative. Its most important ingredient, however, is quinine, each ounce of the tincture containing as much as nine grains and a half of the alkaloid. The tincture is of a deep brown color, has an aromatic and slightly terebinthinate odor, and an intensely bitter and warm aromatic taste. But its spirit is not perceptible either to taste or smell and it seems (remarks Dr. Broadbent) as if the alcohol were entirely saturated and, as it were, extinguished by the substances taken up.

In reference to the large quantity of quinine the tincture contains, in combination with what some might term "a farrago of inert substances," Prof. McLean observes that he has treated remittent fevers of every degree of severity, in various parts of India and China, but he has never seen quinine, when given alone, act in the manner characteristic of this tincture. He has never seen a single dose of nine grains and a half suffice to arrest an exacerbation of remittent fever, much less prevent its recurrence; while nothing is more common than to see the same quantity of the alkaloid in Warburg's tincture bring about similar results.

Dr. Broadbent is disposed to attribute the extraordinary virtues of this tincture to three therapeutical principles, namely, the combination of quinine with powerful aromatics, the highly concentrated state of the tincture, and the powerful impression made by it upon the nervous system.

The formula for this tincture, as given in the "Med. Times and Gazette," Nov. 3, 1875,<sup>1</sup> by Prof. McLean, apparently upon the authority of Dr. Warburg himself, is as follows: Socotrine aloes, ℥i; rhubarb, angelica fruit, confection of Damocrates (containing 40 to 50 ingredients), of each ℥iv; elecampane, saffron, fennel, prepared chalk, of each ℥ii; gentian, zedoary, cubebs, myrrh, camphor, agaric, of each ℥i. Digest the whole with 500 oz. proof spirit, in a water-bath, for 12 hours; express, add 10 oz. sulphate of quinia, dissolve by the aid of a water-bath, cool and filter.

On referring to "Dorvault's l'Officine," 1872, p. 934, we find the following statement concerning the *teinture fébrifuge de Warburg*:

"It is supposed to have the following composition: Hepatic aloes 4 grams, zedoary 4 grams, angelica root 0.1 gram, camphor 0.1 gram, saffron 0.15 gram, alcohol 100 grams. Digest, filter, and dissolve in the filtrate sulphate of quinia 2 grams. Dose, 20 grams a day. According to some authors, the base of Warburg's tincture is *picrolichenin*, the principle obtained from several species of *Variolaria*; but Dr. van den Corput and several other chemists have positively found quinia in it."

Hager's "Manuale Pharmaceuticum" gives the following formula for *tinctura antifebrilis Warburgii*: Elixir proprietatis 22 parts, alcohol 16 parts, spirit of camphor 2 parts, and sulphate of quinia 1 part.

<sup>1</sup>See "Amer. Jour. Med. Sciences," Jan., 1876.



It is apparent, by comparing these formulas with the account given above, that they are simplifications of the composition as stated by Prof. McLean. In regard to the imperceptibility of the alcohol, however, the statement of Dr. Broadbent appears to require some qualification; for Wittstein, in his "Geheimmittellehre," 1876, p. 82, describes the nostrum as being "sold in vials containing not much over half an ounce (weight), and as being a dark yellowish-brown, not perfectly clear liquid, which smells of alcohol, and at the same time of camphor and saffron, and has an intensely bitter, somewhat aromatic and plainly camphoraceous taste. It contains, according to Buchner, quinia and probably, also, cinchonia, camphor, saffron; probably, also, aloes, myrrh and other aromatics like galangal; it might, therefore, be prepared by exhausting Calisaya bark with water acidulated with sulphuric acid, concentrating by evaporation, neutralizing with lime, exhausting with strong alcohol, and adding some camphor, saffron, etc."

It is further stated that "Ragsky, from his analysis, has contrived the following formula for preparing a vial of the tincture: 1 grain camphor,  $2\frac{1}{2}$  gr. aloes, 10 gr. orange peel, and 12 gr. elecampane are digested with  $\frac{1}{2}$  ounce (weight) of alcohol and 24 drops of diluted sulphuric acid; to the tincture is added 9 gr. sulphate of quinia and 3 drops of Sydenham's laudanum. Some state to have observed the presence of ginger and angelica, but these two are subordinate in quantity."

It is to be regretted that before the alleged virtues of this nostrum were heralded forth the constituents upon which they depend were not previously ascertained. Being an opponent to polypharmacy, we have no faith in "a farrago of inert substances."

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**The Nostrum Chlorodyne.**—The March number of the "Pacific Medical and Surgical Journal" contains a forcible and well-timed editorial, which we transcribe to our pages, merely remarking that we need not travel to Great Britain to find physicians who prescribe, and medical journals who advertise, nostrums, and even "puff" them.

British physicians at home and in America are in the habit of employing the nostrum called *Chlorodyne*, asserting that its virtues are such that they would not be justified in discarding it, nostrum though it be. Various formulas have been announced for its composition, based on chemical analysis and experimental use. But its exact composition remains a matter of doubt, though for all practical purposes the proposed substitutes are doubtless as good, and some of them probably better. How far medical men who prescribe it under these circumstances violate the ethics of the profession, is a question worthy of thought. No one who does prescribe it can consistently open his lips against other nostrums, or the nostrum business in general; for other practitioners have the same right as themselves to use and endorse such other nostrums as they may conceive to be useful. And so professional men succeed in countenancing and upholding the entire abomination. Like Cowper's Mahometans over the interdicted swine, some choosing the snout and some the tail as parts exempt from prohibition,

"From tail to snout the hog is eaten."

There is not in the long catalogue of quack medicines, any other one that has so linked the profession with quackery as chlorodyne. There is no stronger proof of this than the fact that one of the most prominent and best esteemed of the British medical journals promulgates in every issue an advertisement of the nostrum, with such laudations of it as the manufacturer chooses to make public. Dr. J. Collis Browne, it is stated, was the discoverer, and the formula has been confided only to J. T. Davenport, who is the sole manufacturer. We think a standard medical journal should not hire its columns in this style for the promotion of quackery. When such things are done within the family how shall we expect secular and religious periodicals to do otherwise than flood the country with all sorts of vile impostures! Under such circumstances the attempt to reform the customs of the community in this respect may well bring down upon ourselves the denunciation—Ye fools! First take the mote out of your own eye, &c.

The Milk of Sulphur Prosecutions in England, to which we have referred on a previous occasion ("Am. Jour. Pharm.," 1875, p. 138), appear to have reached the end which they deserved. As our readers are aware, the old-fashioned milk of sulphur, containing calcium sulphate, which, by the way, has never been official in this country, has been supplied there, whenever *milk of sulphur* was asked for, while *precipitated sulphur* meant the article which here is used under both names, namely, the sulphur precipitated from a solution of calcium sulphuret by hydrochloric acid, and consequently free from calcium sulphate. On an appeal taken from the decision of a magistrate, the Knutsford Quarter Sessions, by a very full bench, decided, without hearing all the testimony of the appellant, that in the trade and the medical profession there were two distinct substances, known as *lac sulphuris* and *sulphur precipitatum*, and that they were supplied to the trade and the public by those names as two distinct things.

We consider this decision as eminently proper, and warranted by the facts as they appear to an entirely disinterested observer; for in the United States we regard the two terms as absolutely synonymous, and a milk of sulphur containing sulphate of calcium, as a fraud. But we know also that mere terms have a different significance with the population of different localities, and that it cannot be altered by any amount of scientific reasoning.

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**A Pharmaceutical Journal Discontinued.**—Buchner's "Neues Repertorium für Pharmacie" has been discontinued with the close of the twenty-fifth volume, (1876). This journal, with its predecessor, has been one of the most important and influential, dating back to the year 1815, when the "Repertorium für die Pharmacie" was established by Prof. A. F. Gehlen, a pharmacist, and at that time one of the best known German chemists, who had previously edited several volumes of the "Berlinisches Jahrbuch der Pharmacie." Gehlen died unexpectedly before the first volume of the "Repertorium" was finished, being poisoned by the inhalation of arseniuretted hydrogen, with which gas he was then experimenting. The very first *essai* published in that journal was written by Dr. J. A. Buchner, who, since Gehlen's death continued to edit it until the year 1851, at the close of the 110th volume, when the title was changed to that given above. Before the close of the first volume was reached, the veteran editor died, and was followed by his son, Prof. L. A. Buchner, who remained in the editorial chair until the final discontinuance of the "Neues Repertorium."

Within a few years the publication of four important pharmaceutical journals of Germany has been stopped, namely, the "Apotheker," Wittstein's "Vierteljahresschrift," "Neues Jahrbuch der Pharmacie," and now the "Repertorium."

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**Correction.**—In the December (1876) number we announced the death of Henry E. St. Claire Deville. This is incorrect. It was the brother of this distinguished chemist, the well-known mineralogist and geologist, Charles St. Claire Deville, who died in October last.